

HUNTS POINT INTERSTATE ACCESS IMPROVEMENT PROJECT – CONTRACT 3

DESIGN-BUILD PROJECT

PIN X731.65, Contract D900055

Request for Proposals

Addendum #2

May 13, 2022

Modification to the Request for Proposals HUNTS POINT INTERSTATE ACCESS IMPROVEMENT PROJECT – CONTRACT 3 Design-Build Project PIN X731.65, Contract D900055

Note to Proposers

Differences between the deleted pages and the revised pages have been identified as follows:

- Brackets have been inserted on the left-hand margin of the pages to indicate where changes have been made to the documents; and
- Text additions have been shown in underlined red font and text deletions have been shown in crossed out red font.

General Instructions

Delete pages A-3 and A-4 of the Instructions to Proposers, Appendix A, and substitute the attached revised pages A-3 and A-4.

Delete Form WPS and Form SCD of the Instructions to Proposers, Appendix E, Forms, and substitute the attached revised Form WPS and Form SCD.

Delete pages 2, 7, 24, and 75 of the DB Contract Documents, Part 2, DB Section 100, General Provisions, and substitute the attached pages 2, 7, 24, and 75.

Delete pages v, vi, 3, 10, 16, 128, 132, 134, 136, 137, 138, 140 through 145, 148, 149, 154 through 157, 159, 160, 161 and 218 of the DB Contract Documents, Part 3, Project Requirements, and substitute the attached revised pages v, vi, 3, 10, 16, 128, 132, 134, 136, 137, 138, 140 through 145, 148, 149, 154 through 157, 159, 160, 161, 218 and 218A.

Delete Indicative Utility Plans UTN-03, UTC-02, UTC-03, UTC-04, UTG-01 through UTG-04, UTL-01 through UTL-05, UTP-01 through UTP-05, UTR-01, DRP-01 through DRP-04, UTS-01 through UTS-05, UTV-01, UTV-02, and UTW-01 through UTW-04 of the DB Contract Documents, Part 4, Utility Requirements, Appendix C, Indicative Utility Plans, and substitute the attached revised Indicative Utility Plans UTN-03, UTC-02, UTC-03, UTC-04, UTG-01 through UTG-04, UTL-01 through UTL-05, UTP-01 through UTP-05, UTR-01, DRP-01 through DRP-04, UTS-01 through UTS-05, UTV-01, UTV-02, and UTW-01 through UTW-04.

Delete pages ii, iii, 66 and 67 of the DB Contract Documents, Part 5, Special Provisions and substitute the attached revised pages ii, iii, 66, 67, 67A, 67B, 67C, 67D, and 67E.

Add the attached New York City Transit – Adjacency General Notes to the DB Contract Documents, Part 5, Special Provisions, SP-14.

Add the attached NYSDOT Project Labor Agreement to the DB Contract Documents, Part 5, Special Provisions, SP-17.

Delete Directive Plans IND-1, PL-3, AL-04, AL-05, AL-06, AL-09, AL-11 through AL-14, RP-01 through RP-04, and PRK-01 of the DB Contract Documents, Part 6, RFP Plans, and substitute the attached revised Directive Plans IND-1, PL-3, AL-04, AL-05, AL-06, AL-09, AL-11 through AL-14, RP-01 through RP-04, and PRK-01.

Add the attached Directive Plans RP-05, LN-01, LN-02, TPD-01, PN-01, UD-01 through UD-09, LEK-01, UDE-01, UDE-02 and LPT-02 to the DB Contract Documents, Part 6, RFP Plans.

Delete Indicative Plans IND-2, TYP-01 through TYP-16, WZTC-RO-02, WZTC-RO-03, WZTC-B1-02, WZTC-B1-03, WZTC-R1-12, WZTC-R1-13, WZTC-R1-22, WZTC-R1-23, WZTC-B1-32, WZTC-B1-33, WZTC-B2-02, WZTC-B2-03, WZTC-R2-02, WZTC-R2-03, WZTC-R2-11, WZTC-R2-12, WZTC-R2-22, WZTC-R2-23, WZXS-1-3, WZXS-2-2, WZXS-2-3, WZXS-2-4, WZXS-3-4, WZXS-4-3, WZXS-4-4, KP-1, GP-02 through GP-10, PRO-8, UTI-02 through UTI-07, TB-02, TB-04, TB-05, FP-03, PB-01 and PB-02 of the DB Contract Documents, Part 6, RFP Plans, and substitute attached revised Indicative Plans IND-2, TYP-01 through TYP-16, WZTC-RO-02, WZTC-RO-03, WZTC-B1-02, WZTC-B1-03, WZTC-R1-12, WZTC-R1-13, WZTC-R1-22, WZTC-R1-23, WZTC-B1-32, WZTC-B1-33, WZTC-B2-02, WZTC-B2-03, WZTC-R2-02, WZTC-R2-11, WZTC-R2-12, WZTC-R2-22, WZTC-R2-23, WZXS-1-3, WZXS-2-2, WZXS-2-3, WZXS-2-4, WZXS-3-4, WZXS-4-3, WZXS-4-4, KP-1, GP-02 through GP-10, PRO-8, UTI-02 through UTI-07, TB-02, TB-04, TB-05, FP-03, PB-01 and PB-02.

Add the attached Indicative Plans TYP-17, LN-00, TRP-01 through TRP-04, TRT-01, TRT-02, UP-01 through UP-05, LKP-01, LEP-01 through LEP-09, LPT-01, USD-01, and USD-02 to the DB Contract Documents, Part 6, RFP Plans.

Delete page i of DB Contract Documents, Part 7, Engineering Data and substitute the attached revised page i.

Add the attached page viii and Draft OCMC Permit to the DB Contract Documents, Part 7, Engineering Data.

Add the attached page ix and NYSDOT UHPC Link Slab Details to the DB Contract Documents, Part 7, Engineering Data.

No other provision of the solicitation is otherwise changed or modified.

A3.0 PROJECT LABOR AGREEMENT

The Department has undertaken a due diligence study to determine whether there will be a public benefit to implementation of a Project Labor Agreement (PLA) for the Project and has concluded that a PLA is warranted. The agreement to be entered into between the Design-Builder and appropriate trade unions will be prepared and provided to the Proposers in the Final RFP or by Addendum. Any provision in the RFP inconsistent with the provisions of an approved PLA shall be superseded by the PLA to the greatest extent permitted by federal or state law.

A4.0 REFERENCE DOCUMENTS

Reference Documents include but are not limited to the following Documents:

- A) As-built or Record Plans;
- B) Existing Utility Plans;
- C) Bridge Inspection Reports;
- D) Final Design Report/Final Environmental Impact Statement

Reference Documents are located at the following Web site address:

https://www.dot.ny.gov/main/business-center/designbuildproject55

A5.0 PROCUREMENT SCHEDULE

A5.1 ANTICIPATED PROCUREMENT SCHEDULE

The Department anticipates the following procurement schedule for the Contract:

Activity	Date
Draft RFP Informational Meeting	Week of March 21, 2022
Final RFP to Shortlisted Firms	April 14, 2022
Date Proposers may start submitting ATCs for review	April 18, 2022
Proposal period one-on-one meetings with all Proposers.	April 18 – June <u>30</u> 24, 2022
Final date for Proposers to submit new ATC's for review	June 1 <u>5</u> , 2022
Final date for requests for changes to Proposer's organization and personnel	June 1 <u>5</u> , 2022
Final date for Proposers to submit revised ATCs for final review	June <u>30</u> 4 6 , 2022
Final date for Department's responses to new ATCs submitted for review	June <u>22</u> 8, 2022
Final date for Department's responses to revised ATCs submitted for review	<u>July 6</u> June 22, 2022
Final date for receipt of Proposer questions	<u>July 7</u> June 23, 2022
Final date for Proposers to respond to conditional approval of ATC's	July 1 <u>5</u> , 2022
Issue Date for Final Addendum and/or answers to Proposer questions	<u>July 14</u> June 30 , 2022

Proposal Due	July <u>27</u> 13, 2022		
Post Proposal meetings	Week of August 1 July 18, 2022		
Selection of Best Value	August <u>31</u> 16, 2022		
Limited Negotiations (if required)	TBD		
Contract Award	November <u>17</u> 10, 2022		
Notice to Proceed	November <u>17</u> 10, 2022		

This is a tentative schedule. All dates set forth in the preceding table and in this RFP are subject to change, in the Department's' sole discretion. To the extent that dates are changed, the Department shall notify the Proposers by Addendum.

A5.2 PROPOSAL DUE DATE

The completed Proposal shall be delivered to the Department's Designated Representative at the address specified in Section A8.0, no later than 12:00 P.M. (midday) (Eastern Time), on the date specified in Section A5.1 (the "Proposal Due Date").

A6.0 CONFLICT OF INTEREST

Federal regulations prohibit the hiring of any person or organization that has a "conflict of interest". Because of their prior work, the following firms have been identified as having conflicts of interest that prevent their consideration for the pending Project. Due to a conflict of interest based on services currently being provided that are related to this Project, Proposers may not include the services of the following firm(s):

- URS Corporation New York
- AECOM
- Dewberry Engineers, Inc
- MJ Engineering and Land Surveying, P.C.
- SI Engineering, P.C.
- Zetlin Strategic Communications, Inc.
- Mathews Nielsen Landscape Architects, P.C.
- SIMCO Engineering, P.C.
- KLD Engineering, P.C.
- Environmental Planning & Management, Inc.
- Paul Carpenter Associates, Inc.

Proposers utilizing firm(s) identified above will be disqualified from participating in this Project.

A7.0 DBE PARTICIPATION GOAL

Refer to Part 1.

A8.0 DEPARTMENT'S DESIGNATED REPRESENTATIVE

The Department's Designated Representative for this Procurement is:

FORM SCD SCHEDULE OF CONTRACT DURATIONS

Table SCD - 1

OVERALL PROJECT COMPLETION (See Note 1 and 2)			
ACTIVITY	LIQUIDATED DAMAGES AMOUNT (PER DAY) (See Note 3 and 4)		
PROJECT SUBSTANTIAL COMPLETION (See Note 1 and 2)			\$25,000
(See Note 1 and 2) PROJECT COMPLETION (See Note 1 and 2)			\$10,000

- 1. The Project Completion Date, to be included in the DB Agreement, Article 4.2, shall be defined by the number of calendar days past NTP as proposed by the successful Proposer and agreed to by the Department. Project Substantial Completion for the purposes of this Form SCD is defined as all construction activities completed, and no additional impacts to traffic, pedestrians, railroads, and subways. Remaining paperwork (i.e. As-Builts, close-out documentation, payments, and demobilization) may occur after the Project Substantial Completion date for the purposes of this Form SCD.
- 2. The Project Completion Date shall be computed by adding 90 calendar days to the Project Substantial Completion Date from Table SCD-1 and shall include complete demobilization from the work site(s).

The Design Builder's attention is directed to the fact that in no event shall the Project Substantial Completion Date in Table SCD-1 exceed 8/2/9/5/2025. In the event the Project Substantial Completion Date exceeds 8/2/9/5/2025, it will result in the determination of non-responsiveness.

- 3. Liquidated Damages will be assessed, in the amount indicated in Table SCD-1, for failure to achieve Project Substantial Completion and Project Completion as required.
- 4. Multiple Liquidated Damages may be assessed concurrently for failure to complete the required project work in accordance with the Design-Builder's SCD provisions. In the event multiple liquidated damages are being assessed due to the Design-Builder's failure to perform, the sum-total of the liquidated damages shall be capped at two hundred thousand dollars (\$200,000.00) per day.

Table SCD - 2a

INTERIM COMPLETION MILESTONES (See Note 5)					
PROJECT COMPONENT DURATION (Calendar Days past NTP) DURATION (Calendar Days past NTP) MILESTONE COMPLETION DATE MANDATORY COMPLETION DATE DAY) (See Notes 4 & 6)					
WORK WITHIN AND ADJACENT TO AMTRAK ROW (See Note 7)			September 1, 2024	\$50,000	
BRYANT AVE. PEDESTRIAN BRIDGE (See Note 8)			September 2, 2024	\$25,000	

- 5. The Interim Completion Milestone Dates, as submitted by the Proposer and indicated in Table 2a, shall be defined by the number of calendar days past NTP as proposed by the successful Proposer and agreed to by the Department. Where applicable, the Milestone Completion Dates listed in Table 2a shall not exceed the respective Mandatory Completion Dates.
- 6. Liquidated Damages will be assessed, in the amount indicated, for each calendar day or partial calendar day due to failure to achieve the Milestone Completion Date of the Project Component as submitted by the Proposer and indicated in Table SCD-2a.
- 7. Work Within and Adjacent To Amtrak ROW is defined as all work that is directly within and adjacent to the permanent easement of the Amtrak ROW, including work directly within the Amtrak ROW, retaining wall repairs, the reconstruction of EB Bruckner Boulevard, the installation of primary and secondary shielding for the Bruckner Expressway rehabilitation along the Amtrak ROW from approximate STA BE 95+45 to approximate STA BE 113+45, and the construction of Ramp SN. Counting of Days will continue until all work is completed and no further Amtrak coordination is required, all Ramp SN and EB Bruckner Boulevard lanes and shoulders are fully open to traffic in their final project configuration with no further disruption to traffic, and the sidewalk on the south side of EB Bruckner Blvd. is constructed and open to pedestrian traffic.

This work includes but is not limited to: installation of primary and secondary shielding, retaining wall repairs within Amtrak ROW, retaining wall construction/modification and installation of fencing on top of retaining wall along Amtrak ROW, clearing, grubbing, demolition of Ramp N, construction of Ramp SN, and EB Bruckner Boulevard reconstruction from Barretto St. to the RR Bridge including all lanes, shoulders, sidewalks on the south side, drainage, utilities, signs, signals, and final pavement markings. This milestone does not include the following work: removal of Bruckner Expressway shielding adjacent to Amtrak ROW and superstructure repairs/painting on the Expressway performed behind the shielding whether or not it requires Railroad Protection Services.

8. Bryant Ave. Pedestrian Bridge is defined as all temporary and permanent work associated with the replacement of the pedestrian bridge at Bryant Ave. Counting of Days will continue until all associated construction work is completed and the bridge is permanently opened to pedestrian traffic with no further disruptions. This work includes but is not limited to: foundations, substructures, superstructure, concrete deck, railing, fencing, and lighting.

The Bryant Ave. Pedestrian Bridge may only be closed to pedestrian traffic between June 24 – September 4, 2023, and June 22 – September 2, 2024. During the closure periods, pedestrians shall be detoured in accordance with the OCMC permit. Construction impacting PS 75 school yard shall be limited to one of the above summer construction periods.

Table SCD - 2b

IMPACTS TO TRAFFIC (See Note 9)					
PROJECT COMPONENT	TRAFFIC IMPACT DURATION (CALENDAR DAYS)		LIQUIDATED DAMAGES AMOUNT (PER DAY) (See Notes 4 & 10)		
BRUCKNER EXPRESSWAY RECONSTRUCTION (See Note 11)	Max Allowed 900		\$90,000		
BRUCKNER BLVD RECONSTRUCTION (See Note 12)	Max Allowed 900		\$30,000		
TEMPORARY BRIDGE (See Note 13)	Max Allowed 800		\$50,000		

- 9. Traffic Impact Duration is defined as the number of consecutive Calendar Days between the date of the first traffic Impact Day for a given roadway and the date of the last Traffic Impact, in accordance with Notes 11, 12, & 13.
 - a) Lane closures to collect engineering data in accordance with the OCMC Permit and the RFP may be performed without counting toward the Traffic Impact Duration provided no physical work of any kind is performed.
 - b) Lane shifts may be performed on the Expressway without triggering the start of the Traffic Impact Duration provided that the number of existing lanes are maintained with minimum lane widths of 11'.
 - c) It is the Department's understanding that WZTC devices, lane tapers, drops, etc. may extend into adjacent approach and departure deck and ramp areas that are

not included in the Design-Builder's intended active work area. These adjacent WZTC devices will not initiate counting of a Traffic Impact Day on adjacent non-active work areas unless the Design-Builder commences with some permanent work associated with these adjacent approach and departure locations.

- d) Landscaping work, including vegetative plantings, is excluded from the counting of Traffic Impact Days.
- 10. Liquidated Damages will be assessed, in the amount indicated, for each calendar day or partial calendar day due to failure to achieve all necessary work associated with the Project Component as submitted by the Proposer and indicated in Table SCD-2b.
- 11. Bruckner Expressway Reconstruction is defined as all work associated with the reconstruction and widening of the Bruckner Expressway, from Bent 129 to the bridge carrying the Bruckner Expressway over the Railroad, that is required to open all lanes of the permanent roadway in its final configuration. Counting of Traffic Impact Days will begin upon commencement of the setup of necessary WZTC devices to facilitate any construction work on the Bruckner Expressway within these limits, and will continue until all phases of construction, and all work associated with the reconstruction and widening of the Expressway have been completed, and all travel lanes and shoulders may be open to vehicular traffic, in their final configuration, with no further disruption. This work includes but is not limited to: bridge widening, concrete deck, new foundations, substructure replacement, superstructure replacement, new abutment, retaining walls, at-grade PCC pavement, permanent concrete bridge and median barriers, utility relocations, deck/pavement grinding and grooving, drainage, final pavement markings, signs, sign structures, bridge railing, and bridge lighting.
- 12. Bruckner Boulevard Reconstruction is defined as all work associated with the reconstruction of Bruckner Boulevard, from Bent 129 to the bridge carrying Bruckner Boulevard over the Railroad, that will impact traffic, pedestrians, and local businesses. Counting of Traffic Impact Days will begin upon the commencement of the setup of necessary WZTC devices to facilitate any construction work on the Bruckner Boulevard within these limits, and will continue until all construction work is complete including the relocation of utilities, and the roadways, sidewalks, and shared use path are permanently open to vehicular and pedestrian traffic in their final project configuration, with no further disruption. This work includes but is not limited to: installation and removal of temporary bridge, final pavement, pavement markings, signs, signals, shared use path, barriers, sidewalks, utilities, and street lighting.
- 13. Temporary Bridge is defined as the detouring of traffic onto a temporary bridge to facilitate stage construction of the Bruckner Expressway and/or the ramps to Sheridan Boulevard. Counting of Traffic Impact Days will begin on the first day traffic is detoured onto a temporary bridge, and will continue until the last day that a temporary bridge is used to carry traffic.

Table SCD-3

PROJECT IMPACTS TO RAILROADS (See Note 14 and 15)					
PROJECT COMPONENT	RAILROAD P SERV BASE # O (See No	ICES F SHIFTS	RAILROAD PROTECTION SERVICES # OF SHIFTS PLUS 10% NO- SHOW (See Note 19 and 20)		LIQUIDATED DAMAGES AMOUNT (PER SHIFT) (See Note 4 and 21)
WORK WITHIN AND ADJACENT TO AMTRAK ROW (See Note 16)	Max Allowed 200		Max Allowed 220		\$20,000
BRUCKNER BLVD RECONSTRUCTION OVER NYCT TUNNEL (See Note 17)	Max Allowed 150		Max Allowed 165		\$10,000

- 14. **Design-Builder Failure to vacate the railroad track area, resulting in train service delays:** in the event the DB's labor, equipment, and/or material fail to clear up to permit on time train services to pass the project site for any reason and the train service is delayed, the DB shall pay to the Department Liquidated Damages in the Amount of \$2,000 per minute, per track, where the delay is experienced. Where tracks are de-energized, note that one hour shall be allotted for re-energization activities, prior to when the tracks shall be returned to service.
- 15. Project Impacts to Railroads is defined as any work requiring Railroad Protection Services from the Railroad to conduct work over and/or adjacent to a Railroad facility in accordance with Department, CSX, NYCT, and Amtrak guidelines.
- 16. Work Within and Adjacent to Amtrak ROW is defined as all work that is directly within and adjacent to the permanent easement of the Amtrak ROW, including work directly within the Amtrak ROW, the reconstruction of EB Bruckner Boulevard, the installation and removal of primary and secondary shielding for the Bruckner Expressway rehabilitation along the Amtrak ROW from approximate STA BE 95+45 to approximate STA BE 113+45, and the construction of Ramp SN, that requires Railroad Protection Services in accordance with the Project Requirements. This work includes but is not limited to: installation and removal of primary and secondary shielding, retaining wall repairs within Amtrak ROW, retaining wall construction/modification and installation of fencing on top of retaining wall along Amtrak ROW, clearing and grubbing within Amtrak ROW, demolition of Ramp N, construction of Ramp SN, and EB Bruckner Boulevard reconstruction from Barretto St. to the RR Bridge including all lanes, shoulders, sidewalks on the south side of the Boulevard, drainage, utilities, signs, signals, and final pavement markings.

- 17. Bruckner Blvd. Reconstruction over NYCT Tunnel is defined as all work within the limits of WB Bruckner Blvd that requires NYCT Railroad Protection Services, in accordance with the Project Requirements. This work includes but is not limited to: temporary bridge installation and removal, construction of new foundations and substructures for Ramp SS, Bryant Ave pedestrian bridge, and WB Bruckner Expressway, pavement reconstruction, milling and resurfacing, sidewalk reconstruction, median reconstruction, drainage, and utilities.
- 18. A Railroad Protection Services Shift is defined as any Design-Builder work shift or partial shift that requires the presence of Amtrak protection personnel (flagger), NYCT protection personnel (flagger or inspector), and/or Amtrak ET personnel required for de-energizing or re-energizing the catenary lines. Regardless of whether the shift requires one or any combination of these services, for all or part of a shift, it shall be considered as one shift. A shift is defined to be an 8-hour work period for Railroad personnel. Note: Railroad Protection Services Shifts shall be counted at each location. Concurrent shifts (if permitted) shall be counted as a shift per work location.
- 19. A "**No-Show**" shift is defined as a work shift that requires Railroad Protection Services, is scheduled in accordance with Project Requirements, the availability of Protection Services is confirmed by the affected Railroads, and the Design-Builder is ready to work as scheduled, but work is delayed and qualifies as a reimbursable No Show event, or cancelled due to the No-Show of one or more Railroad Protection Services personnel. The Design-Builder shall anticipate a No-Show rate of 10%, in addition to the Base Number of Shifts bid, for Railroad Protection Services. No-Show shifts will not be counted against the number of Railroad Protection Services Shifts bid.

No Show Compensation: In the event the Design-Builder (DB) is delayed or had to cancel a work shift due to Railroad Protection Services No-Show, then the DB may be compensated for the actual, verifiable and reasonable costs associated to the field operation that experienced the No-Show impact. In the event the crew and/or equipment is redeployed, that redeployed crew time, and/or equipment time, is not eligible for compensation. The provisions of the Contract shall apply that govern Extra Work and Time Related Delays, Section 109-05, and the provisions of Notice & Record Keeping in Sections 104-06. Any No-Show compensation approved for payment by the Department's Project Manager will be made with the Monthly Progress Payment utilizing Pay Item 800.04200015, Railroad No-Show Force Account Work.

No-Show Compensation shall be limited to field construction work scheduled to be performed during the No-Show Shift. No-Show Compensation provisions will not apply to operations other than construction work activities. (i.e., field survey, field engineering, field measurements, QC Inspection, field meetings, appointments with the Railroad, etc. shall all be excluded from reimbursement and be defined as Non-Compensable under the terms of the contract for the purpose of this section.)

The reimbursement shall be calculated as follows:

 $= \frac{Loss \ of \ work \ time \ due \ to "no \ show" \ in \ minutes}{Total \ work \ time \ available \ per \ shift \ in \ minutes} \\ \times \$X \ [Design \ Builder's \ verifable \ cost]$

*Whereby the ratio computed shall be greater then or equal to 0.15 to qualify as a reimbursable no-show event.

e.g. A delay in Railroad Protection Services results in a loss of 60 minutes of work time out of 180 minutes of available work time in an 8 hour shift (60 Minutes / 180 Minutes) = 0.33 > 0.15, therefore compensation is due for $1/3^{rd}$ of the verifiable cost.

The No-Show Compensation amount is limited to a maximum amount compensable of \$5 million in the fixed price lump sum Item 800.04200015. In the event the full value of this item has been paid to the Design-Builder and additional 'No Show' events continue to occur, no further reimbursement for 'No Shows' will be paid by any provision of the Contract by the Department. The No-Show costs in excess of the maximum amount payable will be borne by the Design-Builder.

THE DESIGN BUILDER'S ATTENTION IS DIRECTED TO THE FACT THAT THE NO-SHOW COMPENSATION PROVISIONS AS CONTAINED IN NOTE 19 HEREIN, SHALL NOT APPLY TO RAILROAD PROTECTION SERVICES REQUIRED THAT EXCEED THE BASE NUMBER OF SHIFTS BID ENTERED INTO TABLE SCD-3.

20. The Design-Builder's CPM schedule, as well as the Durations bid in SCD-2a and SCD-2b, must account for the Float necessary to include a 10% No-Show rate in addition to the Base Number of Shifts bid in SCD-3.

In the event that the Railroad performance results in No-Shows less than 10% of the amount bid in the referenced tables, then no Time Related Delays will qualify as an excusable or compensable extension of time as a result of No-Shows. Notwithstanding this provision, and any other provision of the Contract including without limitation, DB 108-04, No-Show compensation may be compensable as stated in note 19 above.

In the event No-Show delays are the exclusive reason for delays to the project's Completion Date, as documented in a Time Impact Analysis, on the project Critical Path, and cause the project completion date to be delayed, they may be found to be excusable and compensable in accordance with the provisions of Section 109-05, notwithstanding the Contract limitation in DB 108-04.

Design Builder's CPM schedule requirements:

The Design-Builder is required to add an additional schedule activity that represents the 10% Railroad No-Show allowance in the schedule. The activity description shall be "*Railroad No-Show*".

The activity shall be added to each of the following CPM schedule work locations which are listed in Table SCD 3:

- Work Within and Adjacent to Amtrak ROW
- Bruckner Boulevard Reconstruction over NYCT Tunnel

The computed 10% value shall be used as the Railroad No-Show activity duration consistent with the 10% values computed in Table SCD-3. The activity logic shall be a finish to start with the last activity that completes the work at each location and will therefor extend the location's schedule duration. The Contract Substantial Completion date must not be exceeded. One day of Railroad No-Show will be counted as one day on the CPM activity regardless of the actual impact to the schedule.

21. Liquidated Damages will be assessed for each additional shift required by the Design-Builder at any of the Project Components in excess of the number of Railroad Protection Services Base Number of Shifts bid and indicated in Table SCD-3. Note that Liquidated Damages shall be assessed based on the Base Number of Shifts Bid, not the Number of Shifts Plus 10%.

The Proposer commits to meet the Contract Durations specified above.

PROPOSER	
SIGNED	
DATE	
NAME	
(printed or typed)	
TITLE	

FORM WPS WORK PAYMENT SCHEDULE

WORK PAYMENT SCHEDULE NO. 1 – ITEM 800.06000115 BRUCKNER EXPRESSWAY BRIDGE REHABILITATION AND WIDENING BENT 133 TO BENT 142

BENT 133 TO BENT 142			
WORK ITEM	MAXIMUM PERCENT OF LUMP SUM PRICE	PERCENT OF LUMP SUM PRICE (To be completed by D-B) ⁽¹⁾	
Work Zone Traffic Control	10%		
Demolition and Removal of Existing Concrete Deck, Parapets, Railing, and Drainage System	15%		
Jacking and Removal of Existing Bearings and Pedestals	5%		
Removal of Existing Lighting, Signage, Overhead Sign Structure, VMS, and Installation of Temporary Lighting, Signage and Sign Structures	5%		
Construct New Substructures and Foundations for Widening	15%		
Construct New Superstructure for Bridge rehabilitation and Widening	25%		
Construct New Pedestals and Bearings	5%		
Concrete Deck Construction, Including Deck Widening, Concrete Barriers and Drainage System	25%		
Remove Existing Temporary Precast Barriers from Bent 129 to Bent 133 at the Median and WB side and Install Permanent Concrete Barriers	5%		
Install Bridge Lighting, ITS, VMS, Signage, Overhead Sign Structures, and Striping	5%		
Superstructure painting and Substructure sealing	10%		
Punch list work, Site Cleanup and Restoration	2% (fixed)	2% (fixed)	
Final Acceptance (Per DB §109-12.1)	1% (fixed)	1% (fixed)	
Final Agreement (Per DB §109-12.2)	2% (fixed)	2% (fixed)	

WORK PAYMENT SCHEDULE NO. 2 – ITEM 800.06000215 BRUCKNER EXPRESSWAY BRIDGE RECONSTRUCTION BENT 142 TO NEW ABUTMENT

BENT 142 TO NEW ABOTHLENT			
WORK ITEM	MAXIMUM PERCENT OF LUMP SUM PRICE	PERCENT OF LUMP SUM PRICE (To be completed by D-B) ⁽¹⁾	
Work Zone Traffic Control	10%		
Construct New Substructures and Foundations from Bent 142 to New Abutment including Widening	25%		
Demolition and Removal of Existing Concrete Deck, Parapets, Railing, and Drainage System	15%		
Demolition and Removal of Existing Substructures and Superstructure	15%		
Construct New Superstructure from Bent 142 to New Abutment including Widening	25%		
Construct New Pedestals and Bearings	5%		
Construct New Concrete Deck including Barriers, impact attenuators and Drainage System	15%		
Construct Mainline New Abutment, including Concrete Pavement and Approach Slab	10%		
Install Bridge Lighting, ITS, Signage, and Striping	5%		
Superstructure painting and Substructure sealing	5%		
Punch list work, Site Cleanup and Restoration	2% (fixed)	2% (fixed)	
Final Acceptance (Per DB §109-12.1)	1% (fixed)	1% (fixed)	
Final Agreement (Per DB §109-12.2)	2% (fixed)	2% (fixed)	

WORK PAYMENT SCHEDULE NO. 3 – ITEM 800.06000315 EB BRUCKNER EXPRESSWAY EXIT RAMP TO SHERIDAN BLVD - RAMP SN BENT 145A TO BENT 165

WORK ITEM	MAXIMUM PERCENT OF LUMP SUM PRICE	PERCENT OF LUMP SUM PRICE (To be completed by D-B) ⁽¹⁾
Work Zone Traffic Control	10%	
Construct Ramp SN Approach between Bent 165 and Sheridan Blvd. Abutment and Install Permanent Concrete Barriers	5%	
Construct New Substructures and Foundations	30%	
Construct New Superstructure	50%	
Construct New Pedestals and Bearings	5%	
Construct New Concrete Deck including Barriers and Drainage System	15%	
Install Bridge Lighting, ITS, Signage, Overhead Sign Structures and Striping	5%	
Superstructure painting and Substructure sealing	5%	
Punch list work, Site Cleanup and Restoration	2% (fixed)	2% (fixed)
Final Acceptance (Per DB §109-12.1)	1% (fixed)	1% (fixed)
Final Agreement (Per DB §109-12.2)	2% (fixed)	2% (fixed)

WORK PAYMENT SCHEDULE NO.4 – ITEM 800.06000415 WB BRUCKNER EXPRESSWAY ENTRANCE RAMP FROM SHERIDAN BLVD - RAMP SS BENT 145A TO BENT 165

WORK ITEM	MAXIMUM PERCENT OF LUMP SUM PRICE	PERCENT OF LUMP SUM PRICE (To be completed by D- B) ⁽¹⁾
Work Zone Traffic Control	10%	
At-Grade Work to Accommodate Ramp SS foundations near NYCT subway tunnel	5%	
Construct Ramp SS Approach between Bent 165 and Sheridan Blvd. Abutment and Install Permanent Concrete Barriers	5%	
Construct New Substructures and Foundations	30%	
Construct New Superstructure	50%	
Construct New Pedestals and Bearings	5%	
Construct New Concrete Deck including Barriers and Drainage System	20%	
Install Bridge Lighting, ITS, Signage, and Striping	5%	
Superstructure painting and Substructure sealing	5%	
Punch list work, Site Cleanup and Restoration	2% (fixed)	2% (fixed)
Final Acceptance (Per DB §109-12.1)	1% (fixed)	1% (fixed)
Final Agreement (Per DB §109-12.2)	2% (fixed)	2% (fixed)

WORK PAYMENT SCHEDULE NO.5 – ITEM 800.06000515 BRYANT AVENUE PEDESTRIAN BRIDGE RECONSTRUCTION			
WORK ITEM	MAXIMUM PERCENT OF LUMP SUM PRICE	PERCENT OF LUMP SUM PRICE (To be completed by D- B) ⁽¹⁾	
Work Zone Traffic Control	10%		
Demolition and Removal of Existing Concrete Deck, Parapets, Railing, and Drainage System	10%		
Remove Existing Superstructures	10%		
Remove Existing Substructures and Existing Ramp Approach Fill Structure	10%		
Construct New Substructures, Foundations, and Ramp Approach Fill Structure	20%		
Construct New Superstructure	35%		
Construct New Pedestals and Bearings	5%		
Construct New Concrete Deck including Bridge railing, fence, and Drainage System	20%		
Install Bridge Lighting and Signage	5%		
Superstructure painting and Substructure sealing	5%		
Punch list work, Site Cleanup and Restoration	2% (fixed)	2% (fixed)	
Final Acceptance (Per DB §109-12.1)	1% (fixed)	1% (fixed)	
Final Agreement (Per DB §109-12.2)	2% (fixed)	2% (fixed)	

WORK PAYMENT SCHEDULE NO. 6 - ITEM 800.06000615 WB BRUCKNER EXPRESSWAY TEMPORARY BRIDGE **BENT 129 TO BENT 149** PERCENT OF MAXIMUM **LUMP SUM PERCENT** PRICE (To be **WORK ITEM** OF LUMP completed by D-**SUM PRICE** B)⁽¹⁾ Work Zone Traffic Control 10% At-Grade Work to Accommodate Temporary Bridge 5% Reconstruction Construct Temporary Bridge Approach, including Concrete Pavement, Approach Slab, Retaining Walls, 10% and Fill Construct Temporary Bridge Substructures and 15% **Foundations** Construct Temporary Bridge Superstructure 305% Construct Temporary Bridge Concrete Deck including 20% Bridge Railing and Drainage System Install Bridge Lighting, Signage, and Striping 5% Maintenance of Temporary Bridge 10% Demolition and removal of Temporary Bridge 15% At-Grade Restoration and Reconstruction 5% Punch list work, Site Cleanup and Restoration 2% (fixed) 1% (fixed) Final Acceptance (Per DB §109-12.1) 2% (fixed) 1% (fixed)

Final Agreement (Per DB §109-12.2)

2% (fixed)

2% (fixed)

WORK PAYMENT SCHEDULE NO.7 – ITEM 800.06000715 BRUCKNER EXPRESSWAY, RAMPS TO AND FROM SHERIDAN BLVD, AND RAMP N DEMOLITION BENT 142 TO BENT 165

BENT 142 TO BENT 100			
WORK ITEM	MAXIMUM PERCENT OF LUMP SUM PRICE	PERCENT OF LUMP SUM PRICE (To be completed by D- B) ⁽¹⁾	
Work Zone Traffic Control	10%		
Demolition and Removal Ramp M from Bent 142 to Existing Abutment including Superstructures and Substructures, Abutment and Retaining walls, and Existing Ramp Approach Fill Structure	15%		
Demolition and Removal of Ramps to and from Sheridan Blvd from Bent 142 to Bent 165 including Superstructures and Substructures	60%		
Demolition and Removal Ramp P including Superstructures and Substructures, Abutment and Retaining walls	15%		
Demolition and Removal of Ramp N including Superstructures and Substructures, Abutment and Retaining walls, and Existing Ramp Approach Fill Structure	15%		
Demolition of Existing Shed at Bent 144 Hunts Point Ave Intersection	5%		
Remove Existing Lighting, Overhead Sign Structures, Signage, and Impact Attenuators	5%		
Punch list work, Site Cleanup and Restoration	2% (fixed)	2% (fixed)	
Final Acceptance (Per DB §109-12.1)	1% (fixed)	1% (fixed)	
Final Agreement (Per DB §109-12.2)	2% (fixed)	2% (fixed)	

WORK PAYMENT SCHEDULE NO. 8 – ITEM 800.06000815 BRUCKNER BOULEVARD ROADWAY RECONSTRUCTION BENT 134 TO ALDUS STREET

BENT 134 TO ALDUS STREET			
WORK ITEM	MAXIMUM PERCENT OF LUMP SUM PRICE	PERCENT OF LUMP SUM PRICE (To be completed by D-B) ⁽¹⁾	
Work Zone Traffic Control	10%		
Construction of New Water Mains, Combined Sewer and Drainage Systems	20%		
Relocation of Utilities	5%		
Pavement Reconstruction including Hunts Point Ave Intersection, EB Bruckner Blvd and WB Bruckner Blvd.	20%		
Pavement Milling and Resurfacing	15%		
Construction of Curbs extension and Sidewalks including New concrete barriers, Steel faced curbs and New Curb Ramps	10%		
Median Reconstruction, Including Concrete Walkways, Asphalt Non-Walkable Area, and Shared-Use Path	10%		
Construction of parking area under Bruckner Expressway from Hunts Point Ave to New Abutment including installation of concrete barriers with Decorative Fence, gates, underdeck lighting and pavement	10%		
Rehabilitation of the Retaining Wall along the Amtrak ROW and Construction of New Retaining walls, including Installation of Railroad Fence, Clearing and Grubbing, and Placing Gravel	10%		
Install Roadway Lighting, Underdeck Lighting, Landscaping Work and Fencing, Signage, and Striping	5%		
Install ITS System, New Traffic Signal, and Modify Existing Signals	5%		
Punch list work, Site Cleanup and Restoration	2% (fixed)	2% (fixed)	
Final Acceptance (Per DB §109-12.1)	1% (fixed)	1% (fixed)	
Final Agreement (Per DB §109-12.2)	2% (fixed)	2% (fixed)	

WORK PAYMENT SCHEDULE NO. 9 – ITEM 800.06000915 BRUCKNER EXPRESSWAY ROADWAY RECONSTRUCTION NEW ABUTMENT TO BRIDGES OVER AMTRAK

NEW ADDINIERT TO DRIDGES OVER AMITRAR			
WORK ITEM	MAXIMUM PERCENT OF LUMP SUM PRICE	PERCENT OF LUMP SUM PRICE (To be completed by D-B) ⁽¹⁾	
Work Zone Traffic Control	10%		
Removal of Existing Pavement, Lighting, Striping, Overhead Sign Structures, and Signage	10%		
Construction of New Water Mains, Combined Sewer and Drainage Systems	10%		
Relocation of Utilities	5%		
Pavement Reconstruction from New Abutment to Bridges over Amtrak including Concrete barriers	40%		
Replacement of western approach slabs at Railroad Bridge including Concrete Barriers and Sidewalks	10%		
Construct Mainline Retaining Walls and Approach Fill including GRES walls during construction	25%		
Install Roadway Lighting, Overhead Sign Structures, Signage, and Striping	10%		
Punch list work, Site Cleanup and Restoration	2% (fixed)	2% (fixed)	
Final Acceptance (Per DB §109-12.1)	1% (fixed)	1% (fixed)	
Final Agreement (Per DB §109-12.2)	2% (fixed)	2% (fixed)	

- (1) Percent of Lump Sum Price to be completed by Proposer. Total percent for all Work Items shall equal 100%
- (2) Subsequent to Selection of Best Value, the Design-Builder may submit to the Department a more detailed Work Payment Schedule which breaks individual work items into multiple stages, for the Department's review and acceptance. However, the sum of the percentages proposed for each stage shall equal the percentage for that work item submitted by the Design-Builder included on Form WPS, and in no case shall the payment for any individual stage be more than 50% nor less than 10% of the total percentage bid for that work item.
- (3) Payment will be verified through the CPM Cost Loaded schedule per SP-8 and SP-3

Inspector – A representative of the Design-Builder or Department detailed to inspect methods of construction or fabrication and/or materials, equipment for Work both on and off the Site of the Project.

Plans - The official Design Plans and applicable Standard Sheets, which show the location, character, dimensions, and details of the Work to be performed. Also, the Design-Builder's Design Plans showing profiles, typical cross sections, and other details; Work Plans; or exact reproductions which show the location, character, dimensions, and general or specific details of the Work to be done.

Subcontractor – Any Person with whom the Design-Builder has entered into any Subcontract (<u>first-tier</u>) and any other Person with whom any Subcontractor has further subcontracted any part of the Work (<u>second-tier</u>), at any tier. Third-tier subcontracting shall not be permitted. Suppliers and materialmen are excluded from the term. The term does not include any employee with an employment contract, or any employee organization with a collective bargaining agreement, who with the written consent of the Department, sublets any part of the Contract.

B. The following definitions of terms are in addition to the definitions of terms set forth in NYSDOT Standard Specifications §101-02:

Accept/Acceptance - The confirmation provided by the Department that informs the Design-Builder that a submittal, deliverable, work product, or test result, is in conformance with the Contract requirements or NYSDOT standards.

Affiliate:

- A. Any Person that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with the Design-Builder or any Principal Participant.
- B. An Affiliate may also be any Person for which 10% or more of the equity interest in such Person is held directly or indirectly, beneficially or of record, by the following:
 - 1. The Design-Builder;
 - 2. Any Principal Participant; or
 - 3. Any Affiliate of the Design-Builder under part (A) of this definition.

For purposes of this definition, the term "control" means the possession, directly or indirectly, of the power to cause the direction of the management of a Person, whether through voting securities, by contract, by family relationship, or otherwise.

Alternative Technical Concept – A concept that deviates from requirements set forth in the contract documents which provides a solution equal to or better than the requirements set forth in the contract documents. The Department's prior written approval, in accordance with the Instructions to Proposers, *Alternative Technical Concepts (ATCs)*, shall be required.

Basic Project Configuration – The basic information presented by the Department regarding the nature of the project to be constructed as documented in the RFP.

Betterment – Any upgrading of a utility facility that is not attributable to the construction of the Project, and is made for the benefit of and at the election of the owner or other third party;

Conformed RFP - The RFP that incorporates all of the contractual changes issued by the Department during the procurement in the form of an addendum. The Conformed RFP is

by the Design-Builder conforms to the Contract requirements. For design, this shall include, but not be limited to, procedures for design quality, checking, design review including reviews for constructability, and review and approval of Working Plans. For construction, Quality Control activities shall include, but not be limited to, procedures for materials handling and construction quality, inspection, sampling and testing of materials, both on site and at the plant(s), field testing of materials, obtaining and verifying material certifications, record keeping and equipment monitoring and calibration, production process control, and monitoring of environmental compliance. Quality Control also includes documentation of all QC design and construction efforts.

Quality Control Plan - The Design-Builder's plan for implementing the Design-Builder's overall Quality System and associated activities, including Design-Builder's QC and procedures to assure and document quality of design and construction activities through reviews, inspections, testing, internal communications, and necessary interfaces with the Department and the Department's QA activities.

Quality Manager - The Design-Builder's designated individual who is responsible for the overall Quality Program of the Design-Builder, including the quality of management, design, and construction.

Quality Program - The overall quality system and associated activities, including the Department's QA and IA program, Design-Builder QC activities and associated Quality Control Plan that will assure materials and workmanship incorporated into the Project are in conformity with the Contract requirements, Design Documents and Project Specifications.

Release for Construction - The stage of design development where the Design Plans and Project Specifications for a Design Unit or a component thereof are 100% complete and satisfy the requirements of Part 3, Section 5.7.4.

Resident Engineer – A qualified individual as specified in the RFP, who directs the organization and coordination of the inspectors and the on-site Construction Quality Control inspection of the execution of the construction by the Design-Builder. They ensure that the construction is executed in accordance with the approved designs, drawings and specifications related to the Work under construction.

RFP Plans – Those plans included in *Part 6 – RFP Plans* which are, generally-speaking, incomplete plans representing the Project and its components. RFP Plans may be Directive Plans and/or Indicative Plans.

Safety Manager - The Design-Builder's designated person who working under the direction of the Project Manager shall have the primary responsibility for implementing and tracking safety measures for the Project and for ensuring that the Project is progressed safely and in accordance with the Design-Builders Safety Plan, the Contract requirements and the Safety Requirements of the Project.

Subcontract – Any agreement entered into by the Design-Builder or a Subcontractor (limited to second-tierat any tier unless otherwise specified) for a portion of the construction or any other part of the Work in connection with, and under the terms of, the Contract.

Substantial Completion – The point at which the Project, or Section thereof, is complete, such that all items or Work, as described in Contract Document, Part 3 – Project Requirements, have

ARTICLE 28. INSURANCE PROGRAM

The Design-Builder shall procure, at its own sole cost and expense, and shall maintain in force at all times during the term of this contract including any extensions or renewals until Contract Final Acceptance, the policies of insurance covering all operations under the contract whether performed by it or its subcontractors as herein below set forth, written by companies authorized by the New York State Insurance Department to issue insurance in the State of New York and that have an A.M. Best Company rating of (A -) or better or approved by the Department. The Department may, at its sole discretion, permit the placement of policies with a non-authorized carrier or carriers upon request by the Design-Builder accompanied by the documentation required by 11 NYCRR §27.0 et seq.; provided that nothing herein shall be construed to require the Department to accept insurance placed with a non-authorized carrier under any circumstances. The Design-Builder shall deliver to the Department evidence of such policies as the Department deems necessary to verify that the required insurance is in effect.

- **A.** Conditions Applicable to Insurance. All policies of insurance required by this agreement must meet the following requirements:
 - **1.** Coverage Types and Policy Limits. The types of coverage and policy limits required from the Design-Builder are specified in Paragraph B Insurance Requirements below. General liability insurance shall apply separately on a perjob or per-project basis.
 - **2.** *Policy Forms.* Except as may be otherwise specifically provided herein or agreed in writing by the Department, policies must be written on an occurrence basis. In the event that occurrence-based coverage is not commercially available, claims-made policy forms will be considered provided that, at minimum, it includes provisions that allow for
 - (a) reporting circumstances or incidents that may give rise to future claims and (b) an extended reporting period of not less than three (3) years with respect to events that occurred but were not reported during the term of the policy. Insurance policies that remove or restrict blanket contractual liability located in the "insured contract" definition (as stated in Section V, Number 9, Item f in the ISO CGL policy) or that remove or modify the "insured contract" exception to the employer's liability exclusion so as to limit coverage for claims that arise out of contract work, or that do not cover the additional insured for claims involving injury to employees of the named insured or ssubcontractors, are not acceptable. Policy forms must be provided to the Department upon request.
 - **3.** Certificates of Insurance/Notices. Design-Builder shall provide a Certificate or Certificates of Insurance, in a form satisfactory to the Commissioner, before commencing any work under this contract. Certificates or transmittal correspondence shall reference the NYSDOT Contract D Number and the name of the contractor in the Subject Line, by email to:

Insur.constr.contr@dot.ny.gov

Certificates shall be mailed to the:

Builder's design, submission, action or inaction or the Design-Builder's means and method of construction.

- 5. Restraining orders, injunctions, or judgments issued by a court which were caused by Design-Builder's submission, action or inaction or means and method of construction.
- 6. Any labor boycott, strike, picketing or similar situation.
- 7. Any shortages of supplies of materials required by the contract work.
- 8. Climatic conditions, storms, floods, droughts, tidal waves, fires, hurricanes, earthquakes, landslides, acts of terrorism, nuclear events, or other catastrophes causing direct physical damage. However, payment may be made for repairing damage to the Work caused by an "occurrence" as provided in DB §107-09 *Damage*.
- 9. Additional Contract Work or Extra Work which does not impact the Critical Path or affect the overall completion of the Contract, delays in the review or issuance of Change Orders, or field change sheets or delays within the established time periods for consultation and written comment for Design Documents, Working Plans, other submittals and construction details, means and methods.
- 10. Any situation which was within the contemplation of the parties at the time of entering into the contract.
- 11. Award of the contract by the State more than forty-five (45) days beyond the letting date.
- 12. Correcting any materials or Work rejected either by the Design-Builder or the Department, or Work unsatisfactory to the Department for which payment has been withheld. Refer to DB §104-05; and DB §106-08.
- 13. Any other matters not caused by the Department or beyond its control.

DB 108-05 SUBLETTING OR ASSIGNING THE CONTRACT.

Unless indicated otherwise in a Project Labor Agreement, the Design-Builder shall perform Work with a value of at least 30% of the Contract Price with its own forces. Work performed by any Principal Participant, including any of the Design-Builder's joint venture members, general partner(s), subconsultants, and their affiliates, is considered Work with the Design-Builder's own force. However, the Design Services cost, the Construction Inspection cost, and the Materials Testing cost will be excluded from the calculation of the 30%.

The Design-Builder is responsible for all work performed by Subcontractors, Trucking Firms, Manufacturers, Fabricators, Material Suppliers, Services and any other parties in the performance of the contract, regardless of whether Department approval has been obtained. The Design-Builder shall not enter into any subcontract with any person or firm listed as debarred from government contracts by the New York State Department of Labor on https://applications.labor.ny.gov/EDList/searchPage.do or by the Federal Government, General Services Administration on https://www.sam.gov/SAM/. Work shall be performed only by Subcontractors and Truckers specifically approved by the Department's Project Manager, and work shall not begin prior to approval by the Department's Project Manager. Work mayshall not be assigned beyond the Design-Builder's a-Subcontractor's to a lower tier-Subcontractor. Work by a non-approved Subcontractor or Trucker will be suspended by the Engineer and payment for work by a non-approved Subcontractor or Trucking Firm may be withheld.

- **A. Subcontractors.** Except as provided below, Subcontractor approval is required for:
 - Firms performing on-site work as defined in the contract documents.
 - Firms performing the on-site maintenance of previously furnished and installed products.
 - Firms delivering materials to the contract site and incorporating them directly into the Work by the firm's on-site work force.

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WZTC: Staged Construction following NYCDOT-OCMC Permit

Current schedule: Project Completion Date November 2023

Contractor: El Sol / De Foe Joint Venture

Contact Information: Project Director – Snehal Shah

Brief Project Description: Rehabilitation of Bruckner Expressway from East 141st Street to Barretto Street including widening and rehabilitation; reconstruction of Bruckner Boulevard from 138th Street to Barretto Street; construction of new ramps to and from Leggett Avenue to the WB Bruckner Expressway; demolition of existing Ramp RE from the Brucker Expressway to East 138th; slope stabilization from 138th and 135th Street and Structural steel painting and sealing at various ramps to the RFK Bridge and Major Deegan (Ramp NB, NX, RC, SB, RD and ND)

PIN/Description: P-102DELV Reconstruction of Del Valle Square

WZTC: Per contract documents

Current schedule: To be awarded Summer 2022

TBD Contractor:

Contact Information: Naveem Ameen, P.E.

Brief Project Description: NYCDDC project will be in the area north of Bruckner Boulevard near Hunts Point Avenue.

PIN/Description: Contract #CBX001 / Design-Build Services for Metro-North

Railroad Penn Station Access Project

WZTC: Staged Construction following NYCDOT-OCMC Permit

Notice to Proceed: 1/3/2022 / Duration: 63 months Current schedule:

Contractor: Halmar-Railworks, JV

Contact Information: Brad Knote, Project Manager (MTA C&D); George Santana, Project

Manager (MTA C&D)

Brief Project Description: The Project will provide Metro-North customers with service into and out of Penn Station in New York by diverting some New Haven Line ("NHL") trains via Amtrak's Hell Gate Line ("HGL"). To this end, the Project will require the design and construction of additional passenger tracks, traction power substations, overhead contact systems, new interlockings, updated communication systems, and new signal systems within Amtrak's HGL right of way, allowing Metro-North trains running on the NHL to go directly into Penn Station.

Additional coordination requirements: In addition to continuous coordination, the Design-Builder's Rail Coordinator shall attend, at a minimum, bi-weekly coordination meetings with the MTA and their contractor.

Section 1.6 of this Part 3 – Project Requirements. The Design-Builder may submit deliverables for the Department's consideration or consultation and written comment in addition to those cited in the NYSDOT manuals. The Design-Builder shall include such additional submittals in its review plan and revise the review plan as necessary to incorporate sufficient advance notice to the Department. Unless otherwise indicated, t is the goal of the Department that all review and comments be completed within 10 business days.

Unless otherwise indicated elsewhere in the Contract Documents, or directed by the Department's Project Manager, all deliverables shall be submitted in both electronic format and hardcopy format. Acceptable electronic formats include Bentley Microstation.dgn format and Bentley InRoads.alg and dtm format, Microsoft Word®, Microsoft Excel®, ArcMAP, or searchable portable document format (PDF) files, with no copy or password protection on the file content, unless otherwise indicated in a specific section of this Part 3 - Project Requirements or a Standard cited in a specific section of this Part 3 - Project Requirements.

1.9 **INDICATIVE PLANS**

The Indicative Plans, if provided to the Design-Builder in Part 6 – RFP Plans, convey an overall potential solution to the Project's needs that the Design-Builder may choose to consider in developing its design. The designs presented herein have been developed to a point sufficient to present the general concepts of the Project and specifically to show the current highway boundaries and the extent of property acquisitions provided by the Department. The Indicative Plans are not mandatory, with the exception of elements specifically mentioned elsewhere in this Part 3.

1.10 **DIRECTIVE PLANS**

The Directive Plans, if provided to the Design-Builder in Part 6 – RFP Plans, depict required elements and components of the Project within specifically defined parameters. The Design-Builder has no latitude to adjust components or details shown on Directive Plans, unless specifically noted or through an approved Alternative Technical Concept (ATC).

1.11 **CADD**

CADD formatting for Design and As-Built Plans shall conform to the Department's CADD Drafting Standards and CADD Design Standards in effect on the Proposal due date.

1.12 SCHEDULE OF PROJECT COMPLETION

All work on the design, and on the construction, shall be completed in accordance with Part 2, DB Section 100, 103-06, Article 4, but in no case shall the Project Completion Date be later than October 31 December 4, 2025.

1.13 **WORK PAYMENT SCHEDULE**

Progress Payments will be made as each Work Item is completed to the satisfaction of the Department's Construction Quality Assurance Engineer. Progress payments shall be subject to the requirements of DB §109-01. Payments for Design, Construction Inspection and Laboratory activities will be made in conformance with DB § 109-01 (B).

WORK PAYMENT SCHEDULE NO. 6 - ITEM 800.06000615 WB BRUCKNER EXPRESSWAY TEMPORARY BRIDGE **BENT 129 TO BENT 149 PERCENT OF** MAXIMUM **LUMP SUM PERCENT** PRICE (To be **WORK ITEM** OF LUMP completed by D-**SUM PRICE** B)⁽¹⁾ 10% Work Zone Traffic Control At-Grade Work to Accommodate Temporary Bridge 5% Reconstruction Construct Temporary Bridge Approach, including Concrete Pavement, Approach Slab, Retaining Walls, 10% and Fill Construct Temporary Bridge Substructures and 15% **Foundations** Construct Temporary Bridge Superstructure 305% Construct Temporary Bridge Concrete Deck including 20% Bridge Railing and Drainage System Install Bridge Lighting, Signage, and Striping 5% 10% Maintenance of Temporary Bridge Demolition and removal of Temporary Bridge 15% At-Grade Restoration and Reconstruction 5% Punch list work, Site Cleanup and Restoration 2% (fixed) 1% (fixed) Final Acceptance (Per DB §109-12.1) 1% (fixed) 2% (fixed)

Final Agreement (Per DB §109-12.2)

2% (fixed)

2% (fixed)

- D. The frequency and duration of instrument readings; and
- E. When necessary, geotechnical instrumentation for design verification including the types, quantities, locations, and frequency of readings for proposed instrumentation.

The Design-Builder shall install and take readings on vibration monitoring instruments at least two weeks prior to construction activities within the 100 foot zone of influence to establish baseline readings. Refer to Section 13.4.5 for requirements for working adjacent to NYC Transit tunnels and facilities.

The Geotechnical Instrumentation shall be used to demonstrate at project acceptance that measured geotechnical performance is in line with predicted performance.

The Geotechnical Instrumentation and Construction Monitoring Plan shall be submitted to the Department no later than 45 days before the start of construction that initiates the need for monitoring.

13.3.8 Temporary Works

The Design-Builder shall be responsible for the design and construction of all temporary works required for the Project.

13.3.9 Seismic Soil Classification

The Seismic Soil Classification has been determined at the following locations as follows:

- Soil Class D
- Rock Class B

XXXX

13.4 CONSTRUCTION REQUIREMENTS

13.4.1 Dewatering and Groundwater Control

The Design-Builder shall be responsible for evaluating the potential need for dewatering and groundwater control, and for implementing such measures as appropriate, and shall evaluate the effects on existing facilities resulting from any dewatering and draw down.

13.4.2 Structure Foundations

The Design-Builder shall provide integrity, verification, and proof testing of all deep foundation elements as stated below and in accordance with Department standards. The below requirements supplement, but do not supersede, Department standards.

Drilled Shaft

• Static axial compressive load tests must be performed on 1% of all drilled shafts, with a minimum of one per substructure. This testing must be completed on a non-production shaft at each substructure prior to production shaft installation. Alternatively, a bidirectional static load test may be performed on the first production drilled shaft installed at each substructure (1% requirement still applies). The Department may waive the minimum requirement of one Static Axial Load Test per substructure provided that the DB team demonstrates through a detailed subsurface exploration program that the project can be broken into sites with similar geologic subsurface conditions of low variability in

days before start of construction within a distance of 200 feet from the existing NYCT tunnels. The report will be subject to the review and acceptance of the NYCT and the Department.

13.4.6 Work on or Adjacent to Amtrak Railroad Property

All underground utilities, cable, and facilities must be located and protected before any excavating, drilling, boring/directional drilling, ground penetrating activities, or construction takes place. This includes railroad and commercial utilities, cables, duct lines, and facilities. These activities will not be performed in close proximity to the Amtrak duct lines unless monitored by onsite Amtrak communications and signal (C&S) department personnel. Hand digging may be required, as directed by Amtrak through the on-site Amtrak C&S support personnel. Amtrak maintains the right to access all existing cables and conduits throughout construction. Amtrak also reserves the right to upgrade and install new cables and conduits in the affected area. The "one-call" process must be followed. Please note that Amtrak is not a part of the one-call process; contact Amtrak engineering to have all Amtrak underground utilities and assets located. Precautions must be taken to prevent any interruption to Amtrak's operation.

The proposed design shall not induce additional stress on the retaining wall that runs along the AMTRAK ROW. Spread footings within the influence zone of the retaining wall are not permitted.

13.5 DELIVERABLES

Deliverables shall be as stated elsewhere in the RFP documents.

- BIN 106666F (Ramp M) Demolition of WB Bruckner Expressway ramp, including removal of ramp superstructure. Piers 5 through 10, abutment, approach, and retaining walls. Rehabilitation of Piers 1 through 4 including concrete repairs and modifications as needed to accommodate widened portion of the superstructure.
- BIN 106666G (Ramp P) Demolition of EB Bruckner Expressway ramp, including removal of ramp superstructure, piers, abutment, approach, and retaining walls.
- BIN 106666H (Ramp N) Demolition of entrance ramp from Hunts Point Avenue to NB Sheridan Boulevard, including removal of ramp superstructure, piers, abutment, approach and retaining walls; and modifications as required to the south retaining wall adjacent to Amtrak ROW.
- BIN 1075310 (Bryant Avenue Pedestrian Bridge) Demolition of spans 3 through 5, including removal of superstructure, piers, abutment, approach, and retaining walls. Construction of new spans 3 through 6 including abutment, approach, retaining walls, foundations, piers, structural steel, pedestrian rail and fencing, concrete deck, structural steel painting and concrete substructure protective sealing. Install a thin polymer overlay over the entire pedestrian bridge, including ramp constructed in Contract 1, in accordance with Special Specification Item 584.50010018.
- Construction of new retaining wall to support the south sidewalk along EB Bruckner Boulevard from Bryant Avenue to the existing retaining wall at the approach to the EB Bruckner Boulevard Bridge over Amtrak.
- Repairs of concrete retaining walls and existing bridge abutments along Amtrak ROW.
- Reconstruction of the west approach slabs for the boulevard and expressway bridges over Amtrak/CSX.

14.2 **STANDARDS**

The Design-Builder shall perform structural design and construction activities in accordance with the Contract Requirements and the applicable Standards, Design Codes, and Manuals cited in Section 1.6, unless otherwise stipulated in this Project Requirement or otherwise applicable to the Project.

14.2.1 Performance Engineered Concrete Mixtures

For cast-in-place concrete, the Design-Builder may use Performance Engineered Concrete Mixtures for in lieu of NYSDOT Standard Specification Section 501 concrete classes A Performance Engineered Concrete Mixture is defined as any mix proposed by the Design-Builder where f'c > 3,000 psi. Part 5, SP-9, entitled DB Performance Engineered Concrete Mixtures, provides the requirements for the Design Builder's use of such mixtures. When a Performance Engineered Concrete Mixture is proposed, the Design-Builder shall develop a Special Specification for the applicable construction work item, in accordance with the provisions of SP-9, and submit to the Department for review and approval a minimum of 45 days prior to its intended use.

Note these Special Provision requirements address the mixture performance criteria and development tied to NYSDOT Standard Specification 501 and do not modify any other construction specifications (i.e. 555, 557, etc.). If a Special Specification has different, or

the adjacent existing permanent bridge or provide a minimum vertical clearance of 14'-6", whichever is greater. Any temporary pedestrian bridge shall have a minimum vertical clearance of 15'-6". Minimum vertical clearances shall be met above all travel lanes and shoulders of the existing and proposed roadways at all times during, and at the conclusion of, the project. Temporary bridge shall have a design speed of 40 mph and the grade shall not exceed 6.0%. The existing vertical clearance of 14'-0" at Hunts Point Avenue shall be maintained during construction.

The requirements of the table below shall apply to the design of all new and replacement vehicular bridges and shall apply to the analysis of any existing vehicular bridge where structural modifications are performed by the Design-Builder. Where requirements are provided for both the LRFD and Standard Specification columns, both requirements shall be met. Any bridge component that does not meet these requirements in its existing state shall be strengthened or replaced as part of the scope for the Project unless noted otherwise in the Project Requirements.

Design Criteria Table

Component	NYSDOT LRFD Bridge Design Specifications	NYSDOT Standard Specifications for Highway Bridges, HS20 Loading	
Existing Superstructure ¹	LRFR Inventory Rating Factor ≥ 1.0	LFR Inventory Rating Factor ≥ 1.0	
Widened Superstructure ¹	LRFR Inventory <i>Rating Factor</i> ≥ 1.0	LFR Inventory Rating Factor ≥ 1.0	
New Superstructure	Specification Required with LRFR Inventory Rating Factor ≥ 1.2	LFR Inventory Rating Factor ≥ 1.0	
New Bearing	Specification Required Prohibited		
Existing Substructure ⁵	Shall satisfy <i>Either Specification</i> (future wearing surface excluded)		
Modified Substructure ^{2, 5}	Shall satisfy <i>Either Specification</i> (future wearing surface excluded)		
New Substructure ^{2, 5}	Specification Required and shall not control the Load Rating	Prohibited	

Notes:

- 1. New members of an existing or widened superstructure shall not control the load rating of the superstructure.
- 2. For modified superstructures requiring additional substructure (additional substructure width, height, or both), any additional substructure that is structurally connected to the existing substructure shall be considered 'Modified Substructure'. When the additional substructure is not structurally connected to the existing substructure, it shall be considered 'New Substructure'.
- 3. Specification Required indicates that the component shall meet the design specification.
- 4. When only a *Rating Factor* is provided, the component shall satisfy the *Rating Factor* requirement indicated but does not need to meet the design specification.
- _Steel substructure elements must have a rating factor equal to or greater than the rating factor required for the superstructure.
- 5-6. All bracing members (diaphragms, cross-frames, bottom laterals, etc.) and their connections shall not control the design or load rating.

The requirement to perform a seismic analysis is waived for all existing and modified superstructures and substructures. All other seismic provisions, including seismic detailing, shall apply to new and/or modified portions of existing substructures. If necessary, existing substructures shall be modified to meet the minimum support length requirements of the NYSDOT LRFD Bridge Design Specifications or restrainers shall be installed.

The operational classification of all bridges in the project is Essential.

There is no requirement to perform a fatigue analysis or fatigue retrofits on existing spans.

All stages of construction must be analyzed and shown to be safe for legal loads as defined in El 20-026. Load restrictions are not permitted.

14.3.1 Components

The use of any details that deviate from the NYSDOT Bridge Detail (BD) Sheets or NYSDOT Standard Sheets require an approved ATC or an approved RDE.

Barriers, Railings and Pedestrian Fencing: Temporary traffic barriers shall meet, as a minimum, the testing requirements of TL-3 and permanent traffic barriers shall meet, as a minimum, the testing requirements of TL-5.

Any reinforcement that is contained, originates, or terminates within a permanent barrier that is mounted on another component (i.e bridge deck, approach slabs, moments slabs, wingwalls, retaining walls, etc.) shall be stainless steel.

All permanent barriers shall be protectively sealed.

A pinned 24 in, temporary concrete barrier may be used as a temporary median barrier to facilitate opposing traffic with no allowance for a deflection zone.

Barriers, railings and/or fencing that will be designed and constructed to contain users and materials, shall be designed for bicycle traffic, detailed to prevent people from climbing, and provide for maximum safety and security.

Refer to Section 14.3.2 for aesthetic requirements related to bridge parapet walls, bridge railing, and fencing, if any.

Relocate existing electrical conduit under the existing deck and embedded in the concrete bridge barriers. The new conduits shall be located inside the new concrete barriers.

B) Decks: Decks shall be cast-in-place and/or full depth precast panel with a 8.5 in. minimum final thickness after diamond grinding, use Type 1 aggregate, and have an integral wearing surface, unless otherwise noted.

The pedestrian bridge deck shall be cast-in-place and/or full depth precast panel with an 8 in. minimum final thickness, 2 in. cover to the top mat of reinforcement, after diamond grinding, use Type 9 aggregate, and have an integral wearing surface with an appropriate surface finish for receiving the Thin Polymer (Epoxy) Overlay.

The Design-Builder shall diamond grind the entire deck and approach slab surfaces. An additional ½ in. of slab thickness over the top mat reinforcement shall be included to accommodate diamond grinding of up to ½ in.

Cast-in-place decks shall use High Performance Internally Curing (HPIC) Concrete or Lightweight, High Performance Concrete (refer to NYSDOT Special Specification 557.01040018). The NYSDOT Bridge Manual amended as follows: (1) Table 5-1 Deck Requirements, 1st row named "Monolithic Slab", 4th column named "Concrete", text box revised as follows "Class HPIC for single and multi-span" (2) Section 5.1.2.3 High Performance Internal Curing (HPIC) Concrete, the first paragraph revised to "High Performance Internal Curing (HPIC) concrete shall be used for all simple and continuous span bridges."

Two-course decks with asphalt overlays, as defined in the NYSDOT Bridge Manual, are not permitted. Filled steel grating decks, unfilled steel grating decks and orthotropic steel decks are not permitted.

Bridge decks shall be made fully composite with the underlying primary member system.

All decks, approach slabs, sleeper slabs and moment slabs shall be protectively sealed.

All existing shear studs shall be removed and replaced.

Any reinforcement that passes through or is contained, originates, or terminates within a deck shall be stainless steel.

All approach slab, sleeper slab, and moment slab reinforcement shall be stainless steel.

Scupper corrosion protection shall follow the Bridge Detail Sheet requirements.

The NYSDOT Bridge Manual Section 5.1.5.1 Isotropic Decks, second bullet, is revised such that the maximum center-to-center spacing of the girders is 11'-0" and the minimum spacing is 4'-0".

Any individual deck span must utilize either an isotropic reinforcement scheme or a traditional reinforcement scheme. Variation of reinforcement scheme across the crosssection or along the length of any individual deck span is not permitted. Continuous decks may use an isotropic reinforcement scheme for one span and traditional reinforcement for another span provided that all the negative moment reinforcement in the negative moment area over the pier(s) meet(s) the more stringent of the two requirements.

If a precast deck is set, followed by placement of an adjacent cast-in-place deck, a closure pour is required between the deck systems if the precast deck is under live load during the placement.

When pouring cast-in-place decks and for the first 72 hours of curing, the section of the superstructure receiving the new deck shall be isolated from all sections of the

All structural steel shall be painted. Refer to Section 14.3.2 for color requirements related to painted steel superstructure elements.

Fracture-critical members are not permitted. Repair deficient steel structural elements as shown in Part 6 Directive Plans; payment for this work will be made under item 800.06010115 Steel Superstructure Repair Work - Directive Repairs and the price bid should be based upon the total quantity shown including contingency. Steel repairs that may be required beyond that shown in Part 6 will be paid for by the Steel Superstructure Repairs - Unanticipated Repairs Force Account Item 800,06020015. All repairs shall bring members to their as-built capacity, at a minimum, or to the requirements of the Design Criteria Table, whichever is greater.

F) Bearings: Except for fully integral or fixed frame abutments and/or fully integral pier caps. all beam/girder supports shall utilize bearings that conform with Section 12 of the NYSDOT Bridge Manual or Part 7 Structural Details. Design and location of bearings shall provide for easy maintenance, accessibility, and future bearing replacement. For new superstructures, bearing replacement shall be easily accomplished via provided jacking points off the top of the substructure. Jacking points shall have sufficient capacity to lift the superstructure to permit future bearing replacement under live load with no additional strengthening of members required. The plans shall include the location of the jacking points and the jacking loads.

The use of tie-down devices, or any other type of bearing uplift restraints, is prohibited.

Substructures: Existing structural steel capbeams shall be assumed to be equivalent to ASTM 373-58T and have a yield strength (F_v) of 32 ksi and an ultimate strength (F_u) of 58 ksi.

Existing concrete shall be assumed to have a compressive strength (f'c) of 3.5 ksi. Existing concrete reinforcement shall be assumed to have a yield strength of 40 ksi.

All concrete repair areas with exposed reinforcing bars greater than 1 sq. ft. shall utilize passive galvanic protection anodes in conformance with Item 582.99000016 - Embedment of Galvanic Anodes in Concrete. These anodes shall be of the type and spacing as shown in the Directive Plans.

Repair deficient concrete substructure elements in accordance with the Directive Plans. Payment for all work will be made under Item 800.06060115 Concrete Substructure Repair Work - Directive Repairs and the bid price shall be based upon the total quantity shown including contingency. Concrete repairs that may be required beyond the square footage shown in the Directive Plans will be paid for under the Concrete Substructure Repair Work - Unanticipated Repairs Force Account Item 800.06070015. Reinforcement damaged by concrete removal operations are the responsibility of the Design-Builder.

All concrete substructure repairs shall have a finish surface that is surface true to and with the existing unprepared concrete surfaces. The new repaired areas shall not be recessed nor protruding.

The structural capacity of any existing substructure or foundation that is permitted to be incorporated into the Design-Builder's proposed design, and is not visible pre-construction, shall be determined based on the as-built plans. In the event that such a substructure or foundation element is found to be deteriorated, as determined by the Department, any

repairs needed to return the substructure element to a satisfactory condition will be paid for by the Department under the Extra Work Item.

All new and existing concrete substructures shall be coated with penetrating type protective sealer.

The vertical distance from the top of bridge seat to the bottom of superstructure shall not exceed 2'-6" on new or modified spans. Steel bolsters are not permitted.

Abutments: The tops of all new and existing bridge seats, all bearing pedestal surfaces, and the backwall tops and face below expansion joints shall be coated with penetrating type protective sealers. When an expansion joint is located at an abutment, stainless steel reinforcement shall be used in the backwall, pedestals, bridge seat, and top 2 ft. of the front face of the stem. Reinforcing bars that extend from the abutment stem into the backwall below expansion joints shall be stainless steel. Reinforcing bars that extend from the abutment stem into the backwall below expansion joints shall not be plain steel.

In addition to the pile types allowed for integral abutments in Article 11.2.1 of the NYSDOT Bridge Manual, the use of drilled shafts is permitted. An integral abutment refined analysis is required when using drilled shafts as piles.

For discrepancies that exist between the NYSDOT Bridge Manual Section 11.2.1, Integral Abutments, and the NYSDOT BD Sheets, the NYSDOT Bridge Manual shall govern. Additionally, the NYSDOT BD Sheets on integral abutments are amended as follows:

- 1) Pre-excavating holes at pile locations and backfilling with cushion sand is not required.
- 2) A horizontal construction joint between the backwall and deck is prohibited. If necessary, a vertical construction joint may be located 9 ft. into the span as shown on BD-ID4E.
- 3) Where it is appropriate to be used, the "Temporary Steel Girder Support" shown on BD-ID2E shall be designed for all applicable loading, and the plate and bolt dimensions shall not be less than those shown.

Piers: Existing piers do not need to be designed for collision forces.

Pier 165 was designed in Contract 1 to accommodate the span arrangement shown in Contract 3, Part 6 Indicative Plans. Should the Design-Builder modify the span arrangement and/or fixity, the Design-Builder shall demonstrate that Pier 165 meets all requirements for a new substructure.

The Bryant Avenue pedestrian bridge Pier 2 was designed in Contract 1 to accommodate the span arrangement shown in Contract 3, Part 6 Indicative Plans. Should the Design-Builder modify the span arrangement and/or fixity for Spans 3 to 6, the Design-Builder shall demonstrate that Pier 2 meets all requirements for a new substructure.

New pier footing to column, and column to cap, connections shall provide full moment continuity. The use of bearings or hinges below the bridge seat elevation is prohibited.

Pier Caps: The tops of all piers and bearing pedestal surfaces below expansion joints shall be coated with penetrating type protective sealers. For pier caps and pedestals below expansion joints, all reinforcement shall be stainless steel except for column reinforcement that extends into the capbeam. Stainless Steel reinforcement shall be utilized at all exposed surfaces of pedestals and pier caps below expansion joints. Reinforcing bars in the pier cap below expansion joints shall not be plain steel.

Existing Bridge Abutments along Railroad: Repair deficient concrete in accordance with the Directive Plans. Payment for all work will be made under Item 800.06080115 Concrete Retaining Wall Repair Work - Directive Repairs, and the price bid should be based upon the total quantity shown including contingency. Concrete repairs that may be required beyond the square footage shown in Part 6, including the contingency amount, will be paid for by drawing down from the Concrete Substructure Repair Work – Unanticipated Repairs Item 800.06070015. Reinforcement damaged by concrete removal operations are the responsibility of the Design-Builder and shall be repaired to the satisfaction of the CQAE at no additional cost to the Department.

- H) Earth Retaining Structures: Wingwalls shall be considered as part of the abutment for a distance, measured along the wingwall from the intersection of the centerline of bearings and fascia, equal to the height of the abutment wall (as measured from top of footing to the average bridge seat elevation). Gabion, crib, and MSES walls are not permitted. New retaining walls shall not rely on existing structures to derive support nor reduce loading on the new walls.
 - Retaining Walls along Railroad: Repair deficient concrete in accordance with the Directive Plans. Payment for all work will be made under Item 800.06080115 Concrete Retaining Wall Repair Work – Directive Repairs, and the price bid should be based upon the total quantity shown including contingency. Concrete repairs that may be required beyond the square footage shown in Part 6, including the contingency amount, will be paid for by drawing down from the Concrete Substructure Repair Work – Unanticipated Repairs Item 800.06070015. Reinforcement damaged by concrete removal operations are the responsibility of the Design-Builder and shall be repaired to the satisfaction of the CQAE at no additional cost to the Department.
- Foundations: The Design-Builder shall calculate short-term and long-term settlement of I) new foundations for the different geotechnical conditions along the bridge. Long-term settlements for bridge foundations shall not exceed one (1) inch over a 50-year timeframe. Allowable vertical clearance shall be based upon the final long-term settlement calculated.
 - All new foundations, as well as individual footings which require modification, shall be supported by deep foundations or spread footings bearing on competent bedrock.
- Mass Concrete: Mass Concrete Placements shall be as defined in the NYSDOT Bridge J) Manual.
 - All reinforcement located in the mass placement(s), except for footings, shall be epoxy coated reinforcement unless as otherwise noted or specified in other sections of the RFP. The combination of reinforcement and concrete mixture permeability shall meet any defined service life requirements of the RFP.
- Drainage: Drainage requirements are outlined in Section 21 of these Project Requirements. K) Complete new drainage system (scuppers, downspouts, etc) shall be provided in areas of new superstructure, deck replacement, and widening.
- L) BIN Plate Sign: The Design-Builder shall furnish and install a new BIN Plate meeting the requirements set forth in this section.

The material requirements for the BIN Plate are:

- Panel with reflective background: The aluminum panel shall conform to the requirements of the NYSDOT Standard Specifications. The background material shall be green reflective sheeting conforming to the requirements of the NYSDOT Standard Specifications for Class A Sheeting. The size of the panels shall be 1/8 inch thick by 3 inches by 12 inches. A thin rubber or plastic gasket or sheeting matching the plate size shall be placed behind the plate prior to installation.
- Numbers: The numbers shall be reflective sheeting conforming to the requirements of the NYSDOT Standard Specifications for Class A Sheeting, except that the adhesive shall be pressure-sensitive such that the numbers can be applied to the background in

the field. The numbers shall be 2 inches high and silver-white in color conforming to FHWA series C dimensions.

Prior to placing the numbers on the panel, the reflective background shall be clean and free of dirt and oil which may adversely affect proper adhesion. The numbers shall be placed on the reflective background, perpendicular to the longitudinal axis of the panel and vertically centered. The reflective background and numbers shall be coated and/or edge sealed in accordance with the recommendations of the sheeting manufacturer.

The BIN plate shall be attached to the beginning abutment, right side of the bridge using expansion anchors. The plate shall be placed high on the abutment, near the fascia of the bridge so that it cannot be painted over via a spray paint can or easily removed or damaged.

- Live Load Lifting Operations: The Design Builder is permitted to design and execute a lifting operation to facilitate the construction of the new pedestals and bearing installation under active live loads prior to placement of the new superstructure deck. The new pedestals and bearings shall be directly receiving all superstructure loads prior to the placement of the new concrete deck.
- Dry Standpipes: Please note the requirements in New York City Fire Code, Appendix B Reference Standard Modifications regarding dry standpipe requirements. The Design Builder is not required to include a Standpipe at any location on this contract in its Proposal. In the event the NYFD requests the addition of a Standpipe, it will be installed under the Extra Work Item.
- Bird Repellant System: Any bridge mounted item that is located above a sidewalk and any bridge component or portion thereof that is located above a sidewalk area, the SUP, or the parking area, shall receive a bird repellant system conforming to NYSDOT Specification 613.70070011, Bird Repellant System, Sliders. This shall include, but is not limited to, all horizontal or nearly horizontal surfaces of bridge seats, pedestals, bottom flanges of girders. diaphragms, conduits, pipes, and electrical fixtures.

14.3.2 Concrete Inspection and Crack Repair

All surfaces of newly placed concrete components shall be inspected by the Design-Builder's Construction Quality Control Engineer after completion of curing and before any other construction operation obscures the surface. This shall include, but is not limited to, concrete bridge decks, substructures, retaining walls, noise walls, and barriers. All cast-in-place and precast components that are visible shall be reinspected immediately prior to substantial completion of the project.

A report shall be generated based on the findings of the post-curing conditions no later than 30 days prior to the opening of any bridge components to traffic. All cracks exceeding the crack widths identified below shall be documented in the report. This report shall be submitted to the CQAE and shall include repair limits and procedures as detailed below. All cracks shall be repaired within 90 days of the report submission.

14.3.2.1 **Concrete Bridge Decks**

A report shall be generated and submitted to the Department's CQAE identifying all cracks with a width equal to or greater than 0.02 in.

Crack widths equal to or greater than 0.02 in, and less than 0.06 in, shall be repaired with high molecular weight methyl methacrylate (HMWM) using NYSDOT Special Specification 557.25000016 or 557.26000016. Cracks with a width equal to or greater than 0.06 in. shall be repaired by epoxy injection as per NYSDOT Special Specification Item 555.80020001, Crack Repair by Epoxy Injection (Restoration). This work shall be completed prior to any grinding and grooving and only when the concrete moisture content is at an acceptable level; no greater than 5% using a moisture detector meter, or no visible moisture after performing ASTM D4263 test method for a minimum of 4 hours. Penetrating sealer shall then be applied in accordance with the NYSDOT Bridge Manual.

When a crack width exceeds 0.10 in. or when the crack density, as defined by the equation given below, exceeds 1.5 cu. in. the portion of the deck that is not in conformance shall be replaced to the satisfaction of the Department. A replacement procedure and details shall be submitted to the Department for approval or rejection. The shortest side of the rectangle used to determine the 25 sq. ft. area shall be the minimum width of the pour or 5 ft., whichever is less.

Crack Density =
$$\sum_{n=1}^{TC} (W_n^2 \times L_n)$$

Where:

TC = Total number of cracks ≥ 0.02 in. wide within a rectangular 25 sq. ft. area

 W_n = Width of crack n (in.)

 L_n = Length of crack n (in.)

14.3.2.2 **Other Concrete Components**

A report shall be generated and submitted to the Department's CQAE identifying all cracks with a width equal to or greater than 0.04 in.

Crack widths equal to or greater than 0.04 in. shall be repaired by epoxy injection as per NYSDOT Special Specification Item 555.80020001, Crack Repair by Epoxy Injection (Restoration). This work shall be completed when the concrete moisture content is at an acceptable level; no greater than 5% using a moisture detector meter, or no visible moisture after performing ASTM D4263 test method for a minimum of 4 hours. If required, concrete protective sealer shall then be applied in accordance with the NYSDOT Bridge Manual.

When a crack width exceeds 0.125 in. or when the crack density, as defined by the equation given below, exceeds 1.5 cu. in. the portion of the component that is not in conformance shall be replaced to the satisfaction of the Department. A replacement procedure and details shall be submitted to the Department for approval or rejection. The shortest side of the rectangle used to determine the 25 sq. ft. area shall be the minimum width of the pour or 5 ft., whichever is less.

Crack Density =
$$\sum_{n=1}^{TC} (W_n^2 \times L_n)$$

Where:

TC = Total number of cracks ≥ 0.04 in. wide within a rectangular 25 sq. ft. area

 W_n = Width of crack n (in.)

 \underline{L}_n = Length of crack n (in.)

14.3.3 Aesthetics

Aesthetic treatments for the bridge and all retaining walls shall be designed to complement each other and the surrounding context of the highway corridor. Textures, patterns, and concrete colors shall be used to accomplish this goal. The Design-Builder shall provide plans showing all aesthetic enhancements to be incorporated into the design, including but not limited to textures, patterns, and/or colors, to the Department for review and comment. At a minimum, aesthetic treatments shall include the following:

- A) All new abutments, piers, retaining walls, and abutment wingwalls shall receive custom form liner architectural treatment in accordance with the details shown in Part 6 - Directive Plans. The Design-Builder shall construct a 6 feet x 6 feet concrete test panel for each wall type to be used - i.e. one test panel for a cast-in-place retaining wall or cast in place wingwall, and one test panel for a pre-cast retaining wall. Test panels shall be provided on site for review and approval by the Department's Project manager prior to the fabrication of final walls.
- B) All structural steel (existing and proposed) shall be painted within the project limits in accordance with Part 6 - Directive Plans. All existing steel surfaces, including the inside of the steel pier caps and columns, shall be cleaned and painted consistent with NYSDOT Standard Specification Section 573 (Structural Steel Painting: Field Applied - Total Removal). Class A containment is required. All new structural steel shall be prepared and painted consistent with NYSDOT Standard Specification Section 572 (Structural Steel Painting: Shop Applied). Paint color shall comply with Federal Standard 595 No. FS 14223.
- A coating type protective sealer, Item 559.16960118- Protective Sealing of Structural C) Concrete, that is compatible with the anti-graffiti coating shall be applied to all exposed substructure concrete (existing and proposed) within the project limits in accordance with Part 6 – Directive Plans.
- D) Anti-graffiti protective coating conforming to the requirements of Special Specification 559.91100010 shall be used on all architecturally treated concrete surfaces, existing and proposed. For existing and proposed pier columns, anti-graffiti coating shall be applied to all sides.
- D)E) UHPC shall be tinted to match the color of the adjacent concrete decks.
- Permanent fencing shall be installed in accordance with the locations provided in Part 6 Directive Plans, and the following details:
 - 1) Decorative fence with gates under Ramps SS and SN, both on grade (8' height) and on top of concrete barrier (4' height) in accordance with Item 607.7XXYYN39.
 - 2) 8' high steel fence in accordance with Amtrak requirements both on grade and on top of retaining wall along Amtrak ROW. Fence detail shall conform to Amtrak approved fence (Ameristar Impasse II Model, Trident 2-Rail Style) or approved equal. refer to Part 6 Directive Urban Design Plans for fence details and Part 7 for fence specifications.
 - 3) 8' high chain link fence with gates for the area north of Bent SS-8.
 - 4) 8' high chain link fence along Bryant Avenue Pedestrian Bridge and under the western ramps.
 - 5) Chain link fence on top of temporary barrier (4' height) at contractor staging area.

14.5 **CONSTRUCTION REQUIREMENTS**

The Design-Builder shall develop erection procedures for the bridge that include complete detailed erection sequence drawings; erection stresses in permanent and temporary members; bent and falsework reactions determined for each construction stage, meeting all WZTC requirements as described in Section 19.

All unanticipated structural steel repairs, such as those necessary to correct fabrication errors, accidental damage, bolt hole misalignments, unforeseen field conditions, etc., shall be submitted to the Department for review and DCES approval.

14.5.1 Construction Vehicles on Bridge

The Design-Builder is prohibited from running equipment that does not operate on rubber tires (milling machines, rollers, etc.) across bridge decks unless proper precautions (mats, etc.) are provided to prevent damage to the deck. The methods used to move equipment across bridge decks shall be subject to approval by the Construction Inspection Professional Engineering Firm with comments from the COAE.

14.5.2 Bridge Deck Construction Staging

The Design-Builder has the option to use a temporary bridge to reduce the number of construction stages. Temporary vehicular bridge design shall be in accordance with Sections 14.3 and 14.7 of the RFP. Temporary bridge grade shall not exceed 6.0%. The Design-Builder shall submit design calculations and details to the Design Quality Assurance Engineer for review.

14.6 LOAD RATING SUBMISSION REQUIREMENTS

The Design-Builder shall submit draft Load Rating Summaries of all ratable elements of all Bridges to the Design Quality Assurance Engineer for review with the Release for Construction submission for any bridge design unit. The draft Load Rating Summary shall be accompanied by backup calculations (Level 1) and one electronic copy of the input files.

Prior to any bridge, including temporary bridges, in this Project being opened to traffic, the Design-Builder shall prepare a Level I Load Rating for each bridge as described in NYSDOT Engineering Instruction 20-026 Load Rating/Posting Guidelines for State-Owned Highway Bridges. The Level I Load Rating shall include both LFR and LRFR ratings as defined in the current version of AASHTO's The Manual for Bridge Evaluation and as noted in the current version of the NYSDOT Bridge Manual.

The Design-Builder shall prepare a Level I Load Rating of all bridges in this Project using AASHTOWare Bridge Rating (BrR) software for review and acceptance by the Design Quality Assurance Engineer. If the BrR software is not capable of analyzing one of the bridge's structural rating units (e.g. cable stayed, suspension, segmental, etc.) the Design-Builder shall create a Level I Load Rating model for those structural rating units using one of the software applications listed in the Bridge Manual. Any software used other than AASHTOWare BrR shall be approved by the Department prior to starting analysis. Any post processing that is required shall be done using either Mathcad or Excel. Level I Load Ratings for the remainder of the structural rating unit(s) in that BIN shall be created using BrR.

The final stamped and signed Level I Load Rating package shall be submitted to the Design Quality Assurance Engineer, in electronic Adobe Acrobat file format (PDF), no later than 30 calendar days prior to the scheduled opening of the structure to traffic. The Design-Builder shall also submit one electronic copy of the input and/or post-processing files of all software applications used to generate the structural analysis along with a summary sheet listing the file name, software program, and version of the program used to produce the Level I Load Rating.

14.7 TEMPORARY STRUCTURES AND STRUCTURAL LIFTING OPERATIONS

<u>Temporary structures shall be included in an independent Design Unit and shall be submitted in accordance with Section 5, and may be considered an Expedited Design Unit.</u>

The Design-Builder shall submit Lifting Plans and Temporary Structure Plans to the DQAE and CQAE. Plans shall include Load Ratings, Project site activity start date and expected completion date. DQAE/CQAE shall conduct review and provide comments to the Design-Builder. Once Plans are approved by the Design-Builder and accepted by DQAE and CQAE, the DQAE shall notify the Office of Structures Construction Unit and Permit Group of Structural Lifting Operations and temporary Structures use & details. Copies of approved plans and load ratings shall be provided to the Office of Structures Construction Unit and Permit Group for their records.

The Design-Builder shall submit Lifting Plans and Temporary Structure Plans to the Department for review, comment, and acceptance before commencing the Construction Work.

14.8 MINIMUM DETAILING AND DOCUMENTATION REQUIREMENTS FOR REHABILITATED/REPAIRED STRUCTURES

For any structural repairs or rehabilitation to be performed, the Design-Builder shall include plans in the appropriate Design Unit for this work. Plans shall indicate the location and type of each repair to be performed and shall be signed and sealed by the Responsible Engineer. A Working Plan shall also be submitted to ensure the structural capacity of the component being repaired and demonstrate the limits of repairs permissible without temporary shoring. Construction Quality Control shall verify the repairs against the RFC document and provide markup on additional areas which shall be incorporated into the as-builts. Limits of all repairs shall be verified by the Construction Quality Assurance Engineer.

14.9 INVENTORY REQUIREMENTS

Forty-five (45) days prior to a bridge being opened to traffic, the Design-Builder shall submit two (2) copies of the following:

- (1) Inventory Updates or new bridge Inventory per the current NYSDOT Bridge Inventory Manual, reflecting the physical condition and/or changes resulting from the construction and
- (2) Element quantities, on a span basis and for the entire bridge, per the current NYSDOT Bridge Inspection Manual and AASHTO Manual for Bridge Element Inspection.

Blank inventory forms will be provided to the Design-Builder upon request to the Department's Project Manager.

14.10 DELIVERABLES

Deliverables shall be as stated elsewhere in the RFP documents.

- C) Provide signing, traffic signals and pavement markings for bicycle and pedestrian facilities within the Project Limits, where applicable;
- Locate signs in accordance with the National MUTCD and the NYS supplement to the D) National MUTCD. Design overhead sign structures in accordance with the NYSDOT Overhead Sign Structures Design Manual; and
- E) Provide signs with high reflectivity with Type IX sheeting such as to not warrant sign lighting.
- Provide proposed temporary and permanent traffic signalization and intersection design on local F) streets.

Plans, Details, and Specifications for all Temporary and Permanent signs, pavement markings, and signals shall be submitted to the DQAE and CQAE for review.

Temporary signs, pavement markings, and signals shall be provided for all stages of construction as required until permanent signs, pavement markings and signals are installed.

16.3.2 Construction Requirements

16.3.2.1 Signs

The Design-Builder shall not reuse any existing NYSDOT sign materials as part of the permanent signing installation and shall be responsible for the disposal of all signing materials and structures that are removed from the Project. All NYSDOT and NYCDOT signs and associated supports shall be replaced in accordance with Section 16.1. Non-standard signs owned by private entities (excluding Amtrak and CSX) but placed within NYSDOT right-of-way, with the acceptance of the Department, shall be removed, stored, and reinstalled as required. If these signs and associated components are damaged during the removal and storage operation, they must be replaced with new signs and supports. Amtrak and CSX signs directly impacted by construction activities shall be replaced with new signs and supports. The Design-Builder shall be responsible for the provision of all signs, posts, frames, and other structural components required for the installation and support of the sign panels.

The Design-Builder shall prepare and submit the proposed signage, striping layout, and signage design data sheets for required sign panels details to the NYSDOT for their review and acceptance prior to fabrication and installation of any sign structures and associated sign panels.

Remove existing sign panels and replace at the following locations:

- Bent 60 Overhead Sign Structure EB Bruckner Expressway
- Bent 93 Overheard Sign Structure EB Bruckner Expressway
- Bent 121 STA 84+20± Overhead Sign Structure EB Bruckner Expressway
- Bent 128 STA A 90+00± Overhead Cantilever Sign Structure WB Bruckner Expressway
- STA BRW 120+00± Ramp ES Bridge Mounted WB Bruckner Expressway
- STA BRW 135+20± near Evergreen Avenue Overhead Sign Structure WB Bruckner Expressway
- Stratford Ave Pedestrian Bridge Mounted WB Bruckner Expressway
- Soundview Ave Overhead Sign Structure WB Bruckner Expressway
- Underhill Ave Ground Mounted Sign WB Bruckner Expressway, Install new foundation and posts

New overhead sign structures and panels are required at the following locations:

- Bent 141 STA A 99+50± Proposed Overhead Sign Structure
- STA BRW 110+60± WB Bruckner Expressway Cantilever Overhead Sign Structure
- STA BRE 110+10± WEB Bruckner Expressway Cantilever Overhead Sign Structure
- Bent SN-5 STA SN 109+50± Proposed Overhead Sign Structure
- STA SN 115+70± Proposed Overhead Sign Structure

The following overhead sign structures and sign panels shall be removed:

- Bent 144 STA A 102+00± Overhead Sign Structure EB Bruckner Expressway
- STA A 109+50± Cantilever Overhead Sign Structure EB Bruckner Expressway
- Bent 165 STA SN 116+10± Cantilever Overhead Sign Structure Ramp to NB Sheridan Blvd

Each overhead sign structure and panels designated to be removed shall not be removed until new overhead sign structure and panels that replace such existing structure and panels have been installed or temporary guide signs have been installed.

Sign panels to be replaced on existing sign structures shall not have total square footage area exceeding existing sign panel area.

16.3.2.2 Pavement Markings

All pavement markings shall be Epoxy and be uniform in type, color, dimensions, location, and reflectivity. Pavement markings on the Bruckner Expressway shall be 20 mil thickness and shall be furnished and installed in conformance with the Standard Specifications. Pavement markings on the Bruckner Boulevard and other city streets shall be consistent with NYCDOT requirements.

Expressway and ramp shoulders wider than 6 feet shall be hatched. The hatch lines shall be spaced 100 feet on the expressway and 50 feet on the ramps. Contrast striping for skip lines on concrete surfaces shall be in accordance with NYS Thruway Authority Standard Sheet TA 685.01.

16.3.2.3 Traffic Signals

The Design-Builder shall develop a traffic signal plan for the Project that shall:

- A) Provide for all traffic components; and
- B) Provide signing, traffic signals for bicycle and pedestrian crossings within the Project Limits.

There are existing signalized intersections within the limits of the Project which require modification including traffic signals, and pedestrian crossing signals. The locations are listed below:

- A) Bruckner Boulevard and Barretto Street
- B) Bruckner Boulevard and Hunts Point Ave
- C) EB Bruckner Boulevard and Faile Street
- D) EB Bruckner Boulevard and Bryant Ave
- E) WB Bruckner Boulevard and Whitlock Ave

New traffic and pedestrian crossing signals are required at the following intersections, which are not currently signalized:

A) 163rd Street and Hoe Avenue – New signals

The Design-Builder shall design and construct new traffic and pedestrian crossing signals and modify the above specified existing signals with the latest current NYCDOT standard of traffic signal pole and cable supports, and also the latest standard for the pushbutton control systems with count-down timers at the pedestrian safety walks. Pedestrian push button control systems shall be Accessible Pedestrian Signals (APS) per TSMI 15-01 at all intersections. New LED Vehicle, Bicycle, Pedestrian, and Pedestrian Countdown Signals, where appropriate, shall be installed at all intersections. It is required that all new or modified signals with pedestrian signals are fully replaced (includes all poles, foundations, conduit and signal equipment are replaced with new equipment), APS should be designed and implemented for all crosswalks at the subject intersection.

All local street traffic signalization shall be developed as per the NYCDOT standards for traffic signal and intersection design. Traffic rules can be downloaded from NYCDOT website at:

http://www.nyc.gov/html/dot/downloads/pdf/trafrule.pdf.

Traffic signal specifications are available at http://www.nyc.gov/html/dot/downloads/pdf/nycdottraffic-signal-specifications.pdf. Standard drawings are available at http://www.nyc.gov/html/dot/downloads/pdf/nycdot-trafficsignalstandard-drawings.pdf.

The Design Builder shall coordinate with NYC agencies and prepare traffic signal plans for submission to NYCDOT Traffic Signals at least four weeks prior to RFC submission in the appropriate format per the NYCDOT policies. Upon approval (by NYCDOT) of traffic signal and intersection design, the Design-Builder shall incorporate and provide Traffic signal and intersection design drawings per the NYSDOT policies and most current CADD Standards. Preliminary traffic signal plans in NYCDOT format have been provided in Part 7 - Engineering Data of the RFP.

The Design-Builder shall coordinate all work with Mario Castro, supervisor of Bronx Electrical Inspection. Mr. Castro must be contacted at least 48 hours prior to any traffic signal or street lighting work at 212-839-3290 In addition, the Design-Builder or his duly authorized representative shall email the following NYCDOT traffic signal personnel before 7am on the days of the work:

ksoutherland@dot.nyc.gov mcastro@dot.nyc.gov

eanyanwu@dot.nyc.gov hnguyen@dot.nyc.gov

To coordinate the removal of Speed Zone Cameras, contact Vincent Susi at (212) 839-3192.

Four weeks prior to beginning any construction work on traffic signals associated with the project, the Design-Builder shall notify the regional traffic signal section to perform an inspection of the existing traffic signal equipment. After the inspection, the Design-Builder shall submit to NYC Traffic and Signals a written notification of the date they will assume responsibility for traffic signal maintenance. No construction work shall proceed until traffic signal maintenance is assumed by the Design-Builder. The existing traffic signal shall be maintained by the Design-Builder under the requirements of Section 619 of the Standard Specifications, except for the controller, programming, and timing which shall be maintained by NYC Traffic and Signals.

The Design-Builder shall be responsible for maintaining the existing traffic signal equipment including underground conduit and cable and the safety of traffic for the duration of this project. All signals must remain operational during construction. This includes preparing and submitting

temporary signal design plans to NYCDOT Traffic and Signals for their review and approval during construction.

Traffic signal activation shall be done by NYC Traffic and Signals Personnel only. The Design-Builder shall notify the NYC Traffic and Signals section two weeks prior to the requested date of activation.

All traffic signal work shall be performed by a licensed, bonded, and insured electrical contractor in compliance with the NYCDOT specifications. All field personnel shall be trained and approved in a work zone safety certificate program equal to or greater than the program outlined by the International Municipal Signal Association (IMSA).

16.3.2.4 Loop Detectors

Section not used.

16.3.3 Conduit/Cabling Requirements

The following cables shall be utilized during the installation of new signal heads, pedestrian/countdown timers, interconnect and pushbutton signs:

- A) Accessible Pedestrian Unit/Countdown Timer and pushbutton: furnish and install APS cable (per NYCDOT specification 5) for each set display;
- B) Pedestrian signal: furnish and install 5C#14 awg cable for each set display:
- C) One way signal heads: furnish and install a minimum of 5C#14 awg cable;
- D) Two way signal heads: furnish and install a minimum of 10C#14 awg cable;
- E) Three way signal heads: furnish and install a minimum of 15C#14 awg cable.
- F) 24-Hour feeds to be provided for traffic signal equipment and any electrical devices required 24-Hour circuit feeds as described in Section 17.3.1.

The Design-Builder shall furnish and install fiber optic cable for any underground interconnect installation. A drop cable meeting the requirements of the Department's Special Specification 683.07250010 shall be connected to the cabinet. The interconnect shall be coordinated with ITS plans.

The Design-Builder shall furnish and install the following conduit as a minimum:

- A) Conduits under roadway shall be 3" RGS.
- B) Conduits between Span or Mast Arm poles and nearest junction box shall include a 1" RGS and 4" RGS.
- C) Conduits between Pedestrian poles and nearest junction box shall use a 2" RGS.
- D) All other underground conduit installations shall be 2" RGS.

16.3.9 Traffic Signal Requirements

The Design-Builder shall develop a traffic signal plan for the Project that shall:

- A) Provide for all traffic signal components; and
- B) Provide signing, traffic signals for bicycle and pedestrian crossings within the Project Limits, where applicable.

16.4 DELIVERABLES

Section not used.

SECTION 17 LIGHTING

17.1 SCOPE

The Design-Builder shall conduct all Work necessary to provide all required lighting components required for the Project. This includes design as per NYCDOT Street Lighting latest standards and specifications, fabrication and construction of all related permanent and temporary roadway lighting of the bridge, roadway, walkway, shared use path, etc. within the Project Limits.

New Expressway lighting shall be located along the outside shoulders of the roadway.

The Design-Builder shall remove all existing lighting and replace with new lighting system, including all components, within the following project limits:

- Bruckner Expressway from Barretto Street to Whitlock Ave
- Bruckner Boulevard from Barretto Street to Whitlock Ave
- Shared-use path/bike lane from Barretto Street to Whitlock Ave
- Area under Bruckner viaduct east of Hunts Point Ave
- Bryant Avenue Pedestrian Bridge
- New Ramp SS
- New Ramp SN

The Design-Builder shall be responsible for submitting to NYCDOT Street Lighting Engineering all shop drawings and design plans needed for the scope of work. The review and approval process shall be in conformance with the Design-Builder's Quality Control Plan and latest NYCDOT Street Lighting standards and specifications.

17.2 STANDARDS

The Design-Builder shall perform the lighting work in accordance with the Contract Requirements and the applicable Standards, Design Codes and Manuals listed in Part 3 – Project Requirements, Section 1.6, or otherwise applicable to the Project, and NYCDOT Street Lighting Standard Drawings, Specifications, and Notes included in Part 7 – Engineering Data, and the following additional Standards:

17.2.1 Standards

- A) ANSI/IES ANSI Recommended Practice for Design and Maintenance of Roadway and Parking Facility Lighting, RP-8-18
- B) ANSI/IES ANSI Approved Recommended Practice for Roadway Sign Lighting, RP-19-01
- C) FAA Advisory Circular 70/7460-1L, Obstruction Marking and Lighting with Change 2
- D) IES Recommended Lighting for Walkways and Class 1 Bikeways, DG-5-94
- E) NFPA NFPA 70 National Electrical Code (NEC)
- F) NYSDOT Policy on Highway Lighting

G) USCG 33 CFR 118 – Bridge Lighting and Other Signals

17.2.2 References

- IES Guideline for the Application of General Illumination ("White") Light-Emitting Diode (LED) Technologies G-2-10
- NFPA NFPA 70E Standard for Electrical Safety in the Workplace B)
- C) NFPA NFPA 780 Standard for the Installation of Lightning Protection Systems

17.3 LIGHTING REQUIREMENTS

17.3.1 General Requirements

The Design-Builder shall be responsible for designing, submitting plans for approval, furnishing, and installing all new components in conformance with applicable NYCDOT Street Lighting Standard Drawings and Specifications (from the utility and company's power supply connection forward to the luminaires) required for the implementation of the lighting system for the Project including new: luminaires, controls, photo controls, poles, mounting, wiring, cabinets, Boxes, wiring, conduits, and support hardware, etc. as necessary for delivering a complete and functional lighting system.

The Design-Builder shall prepare all lighting calculations for all temporary and permanent lighting system for the Project and submit to the Department and the New York City Department of Transportation Division of Street Lighting (NYCDOT-DSL) for review and acceptance. The Design-Builder shall assume that NYCDOT-DSL will require a minimum of four (4) weeks for review of the lighting submittals. The street lighting design contact person for NYCDOT-DSL is Mr. Akmal Mikhail, 34-02 Queens Blvd., Long Island City, NY 11101; 212-839-3368 (amikhail@dot.nyc.gov) and for Street Lighting Inspection, the contact person is Mr. Wayne Archibald at 212-839-3286 (warchibald@dot.nyc.gov).

All illumination calculations shall be submitted in a format compatible with either AGi32 by Lighting Analysts or Visual by Acuity Brands Lighting along with PDF printouts.

Conduits for electrical cables and electric boxes shall be embedded in concrete parapets and light posts shall be mounted on concrete parapets where practical. For at-grade, conduits and electrical boxes shall be embedded in the ground. At-grade local street lamppost shall be 3' behind curb line. At-grade Highway lampposts shall be on barrier, or 3' behind guide-rail, or 8' behind curb line. All exposed conduits shall be PVC coated rigid galvanized steel (RGS). All light posts to be installed, including at-grades, shall be on level foundation pads built as part of the structure or on separate foundation for installation.

Within Bruckner Boulevard, the Design-Builder shall install new 2" iron conduits from the nearest Con Edison Structure to the new location of the Streetlights.

Submit Lighting Calculation that shall conform to NYCDOT Street Lighting requirements per Section 17.3.2.1 for review and approval.

Submit voltage drop calculations & one-line wiring diagrams that are related to the same Control Cabinet (Inside and/or Outside of contract limits) and as conforms to approved Lighting Calculation.

Submit Street Lighting plans package that shall include, but may not be limited to:

Street Lighting notes

SECTION 26 PEDESTRIAN, BICYCLE AND SHARED USE PATHS

The Design Builder shall design and construct pedestrian, two-way bicycle lanes and shared use paths between Barretto Street and Hunts Point Avenue and from Hoe Avenue to Bruckner over railroad bridges. The bicycle and shared use paths shall be connected to facilities on Del Valle Square constructed by others. The two-way bicycle lanes shall be separated from pedestrian sidewalks with one-foot-wide detectable warning strip.

Bicycle facilities should meet approved design standards as set forth by the AASHTO Guide for the Development of Bicycle Facilities, NYSDOT Highway Design Manual, Chapter 17 Design of Bicycle Facilities and the Federal Manual of Uniform Traffic Control Devices (MUTCD). The requirements for the paths are as follows:

Limits on Bruckner Boulevard	Minimum Width of Bicycle Path (ft.)	Minimum Width of Pedestrian/Sidewalk Path (ft.)	Minimum Width of Shared Used Path (ft.)
Barretto Street to Hunts Point Ave located within existing median	<u>5</u>	<u>8</u>	N/A
Barretto Street to Hunts Point Ave within Westbound Bruckner Boulevard sidewalk	N/A	<u>13</u>	N/A
Hunts Point Ave to Hoe Ave within Westbound Bruckner Boulevard sidewalk	By others	By others	By others
Hoe Ave to Faile Street within Westbound Bruckner Boulevard sidewalk	10	4 adjacent to parking and 6 adjacent to building line	N/A
Faile Street to Bryant Ave within Westbound Bruckner Boulevard sidewalk	10	8	N/A
Bryant Ave to Whitlock Ave within Westbound Bruckner Boulevard sidewalk	10	<u>6</u>	N/A
Whitlock Ave to Amtrak railroad bridge within Westbound Bruckner Boulevard sidewalk	10	<u>10</u>	10
Barretto Street to Hunts Point Ave within Eastbound Bruckner Boulevard sidewalk	N/A	8	N/A
Hunts Point Ave to Faile Street within Eastbound Bruckner Boulevard sidewalk	N/A	10	<u>N/A</u>
Faile Street to Bryant Ave within Eastbound Bruckner Boulevard sidewalk	N/A	9 at existing Pedestrian bridge pier 2	N/A
Bryant Ave to Amtrak railroad bridge within Eastbound Bruckner Boulevard sidewalk	N/A	6 at approach slab	N/A

Limits on Bruckner Boulevard	Minimum Width of Bicycle Path (ft.)	Minimum Width of Pedestrian/Sidewalk Path (ft.)	Minimum Width of Shared Used Path (ft.)
Barretto Street to Hunts Point Ave*	10	8	N/A
Barretto Street to Hunts Point Ave**	N/A	13	N/A
Hunts Point Ave to Hoe Ave**	By others	By others	By others
Hoe Ave to Faile Street**	10	5 and 13	N/A
Faile Street to Bryant Ave**	10	5 and 5	N/A
Bryant Ave to Whitlock Ave**	10	5 and 6	N/A
Whitlock Ave to Amtrak railroad bridge**	10	10	40
Barretto Street to Hunts Point Ave***	N/A	8	N/A
Hunts Point Ave to Faile Street***	N/A	13	N/A
Faile Street to Bryant Ave***	N/A	8	N/A
Bryant Ave to Amtrak railroad bridge***	N/A	6	N/A

- * Pedestrian, Bicycle and Shared use paths are located within existing median
- ** Pedestrian, Bicycle and Shared use paths are located within Westbound Bruckner Boulevard sidewalk
- *** Pedestrian, Bicycle and Shared use paths are located within Eastbound Bruckner Boulevard sidewalk
 - Permanent lighting system meeting the illumination requirements in Part 3 Section 17 for shared use path (pedestrian sidewalk/bike lane).

The existing bicycle path between Longwood Avenue and Hunts Point Avenue shall be kept open to the public maintained until the permanent bicycle path has been completed and accepted.

3/CAD/02

AFFIX SEAL:

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GENERAL DRAINAGE NOTES

- LOCATIONS OF EXISTING DRAINAGE STRUCTURES ARE APPROXIMATE. EXACT LOCATION AND OFFSET SHALL BE DETERMINED IN THE FIELD AS DIRECTED BY THE ENGINEER.
- 2. CARE SHALL BE TAKEN NOT TO DAMAGE EXISTING SEWERS DURING CONSTRUCTION, ANY DAMAGE CAUSED BY THE DESIGN BUILD CONTRACTOR'S OPERATION SHALL BE REPAIRED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER, AT NO EXTRA COST TO THE CITY OR
- 3. REFER TO NOTE 5, CONSTRUCTION OPERATION NOTES, ON NYSDOT STANDARD SHEET 203-04 IF THERE IS A NEED FOR CONSTRUCTION EQUIPMENT TO CROSS NEW AND EXISTING DRAINAGE LINE INSTALLATIONS.
- 4. DRAINAGE STRUCTURES SHALL NOT BE LOCATED WITHIN CURB RAMPS OR PEDESTRIAN CROSSWALK LIMITS.
- 5. FOR PRECAST DRAINAGE STRUCTURES. THE DESIGN BUILD CONTRACTOR SHALL SUBMIT FIVE SHOP DRAWING PRINTS SHOWING THE PROPOSED REVISIONS TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION OF THESE STRUCTURES.
- 6. WHEN FRAMES OR FITTINGS ARE TO BE PLACED UPON CONSTRUCTED MASONRY OR CONCRETE, THE UNITS SHALL BE SET IN MORTAR BEDS AND ANCHORED TO THE MASONRY. ALL UNITS SHALL BE SET FIRM AND SECURE. AFTER THE FRAMES OR FITTINGS HAVE BEEN SET IN FINAL POSITION AND THE MORTAR HAS BEEN ALLOWED TO HARDEN FOR 7 DAYS, THEN THE GRATES OR COVERS SHALL BE PLACED AND FASTENED DOWN.
- 7. DRAINAGE STRUCTURES IN THE PROJECT AREA SHALL BE MAINTAINED OPERABLE AT ALL
- 8. THE DESIGN BUILD CONTRACTOR SHALL PROVIDE TEMPORARY MEANS (PIPES, PUMPS, ETC.) TO DRAIN ANY STORM WATER WHICH MAY DEVELOP WITHIN THE PROJECT LIMITS FOR THE DURATION OF CONSTRUCTION. CONTRACTOR SHALL SUBMIT A DRAINAGE SCHEME WHICH MUST BE APPROVED BY THE ENGINEER, PRIOR TO THE START OF EACH CONSTRUCTION
- ALL EXISTING INVERT ELEVATIONS, PIPE DIMENSIONS AND PIPE MATERIALS ARE OBTAINED FROM SURVEY AND/OR AS-BUILTS. THE DESIGN BUILD CONTRACTOR SHALL FIELD VERIFY ALL OF THESE DETAILS BEFORE COMMENCING WORK.
- 10. THE DESIGN BUILD CONTRACTOR'S ATTENTION IS DIRECTED TO OSHA STANDARDS, SECTION 1926.651(G) CONCERNING LOCATIONS OF POSSIBLE OXYGEN DEFICIENCY OR GASEOUS CONDITIONS THAT MIGHT BE ENCOUNTERED WHEN WORKING ON THE EXISTING DRAINAGE
- 11. THE VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). (NAVD88 1.508 FT = BOROUGH OF BRONX HIGHWAY DATUM, US CUSTOMARY UNITS)
- 12. ALL DRAINAGE STRUCTURES SHOWN ON THE PLANS ARE PART OF THE NYSDOT DRAINAGE SYSTEM, UNLESS OTHERWISE NOTED

NYCDEP DRAINAGE NOTES

- 1. ALL PROPOSED DRAINAGE WORK SHALL BE DONE IN CONFORMANCE WITH THE LATEST STANDARDS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION (NYCDEP).
- 2. ALL EXISTING SEWER MANHOLES TO BE RETAINED WITHIN THE CONTRACT LIMITS SHOULD BE ADJUSTED AS NECESSARY, SO THAT THEY WILL BE FLUSH WITH THE FINISHED GRADES AFTER COMPLETION OF THE WORK. ANY OF THESE MANHOLES WHICH HAVE DAMAGED, WORN OR NON-STANDARD FRAMES AND COVERS SHOULD BE PROVIDED WITH NEW Z7" CASTINGS IN ACCORDANCE WITH THE LATEST STANDARDS OF NYCDED WITH NEW Z7" CASTINGS IN ACCORDANCE WITH THE LATEST STANDARDS OF NYCDEF INCLUDING ANY NECESSARY MODIFICATIONS OF THE MANHOLE MASONRY. ANY DAWAGE TO THE MANHOLES CAUSED BY THIS WORK SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR, AS DIRECTED BY THE ENGINEER, AND AT NO COST TO THE NYSDOT OR NYC.
- 3. CARE SHALL BE TAKEN NOT TO DAMAGE EXISTING SEWERS DURING CONSTRUCTION. ANY DAMAGE CAUSED BY THE DESIGN BUILD CONTRACTOR'S OPERATION SHALL BE REPAIRED BY THE DESIGN BUILD CONTRACTOR AS DIRECTED BY THE ENGINEER, AT NO EXTRA COST
- WHERE THE HEIGHT OF AN EXISTING MANHOLE PERMITS MORE THAN ONE BASIN CONNECTION TO BE MADE ON THE SAME WALL, SPECIAL PRECAUTION SHALL BE TAKEN TO PROTECT THE STRUCTURAL INTEGRITY OF THE MANHOLE. THE MINIMUM CLEARANCE BETWEEN THE OUTSIDE WALLS OF ANY TWO BASIN CONNECTIONS OR BETWEEN A BASIN CONNECTION AND A SEWER, VERTICALLY OR HORIZONTALLY, SHALL BE 12 INCHES.
- THE COST OF RAISING OR LOWERING CITY-OWNED MANHOLES, BASINS AND INLET HEADS TO PROPOSED GRADES WILL BE DEEMED INCLUDED IN THE PRICES BID FOR ALL THE SCHEDULED ITEMS WHEN THE VERTICAL UPWARD MOVEMENT OF ALL HEADS IS TWENTY-FOUR (24) INCHES OR LESS, WHEN THE VERTICAL DOWNWARD MOVEMENT OF 5. MANHOLE HEADS IS SIX (6) INCHES OR LESS AND WHEN THE VERTICAL DOWNWARD MOVEMENT OF BASIN OR INLET HEADS IS THREE (3) INCHES OR LESS, UNLESS MOVEMENT OF BASIN OR INLET HEADS IS THREE (3) INCHES OR LESS, UNLESS OTHERWISE PROVIDED OR DIRECTED, AND WHERE THE ADJUSTMENT IS WITHIN THE BRICK WORK LIMIT. WHEN THE EXISTING STRUCTURE CONSISTS OF A BRICK CHIMNEY OR A CONCRETE ROOF SLAB OR BRICK ON CONCRETE WALLS, THE MAXIMUM ALLOWABLE HEIGHT OF BRICK AFTER ADJUSTMENT SHALL BE TWENTY-FOUR (24) INCHES. ALL OTHER ADJUSTMENTS WILL BE PAID FOR UNDER THE APPROPRIATE MANHOLE, BASIN OR INLET MODIFICATION LITERS MODIFICATION ITEMS
- ALL EXISTING MANHOLES, INLETS, BASINS AND CONNECTIONS WITHIN THE LIMITS OF THIS CONTRACT AND CONTIGUOUS THERETO ARE TO BE CLEANED, FLUSHED AND OTHERWISE MADE OPERABLE TO THE SATISFACTION OF THE ENGINEER. WHERE THE EXISTING BASIN CONNECTIONS ARE FOUND TO BE DAMAGED OR IN DETERIORATING CONDITION, THEY SHALL BE REPLACED WITH NEW 12" DIAMETER DUCTILE IRON PIPE, CLASS 56, IN ACCORDANCE WITH THE LATEST NYCDEP STANDARDS. DAMAGED AND NON-STANDARD CASTINGS WITHIN THE LIMITS OF THIS CONTRACT SHOULD BE REPLACED WITH NEW STANDARD CASTINGS. EXISTING NON-STANDARD BASINS AT LOCATIONS WHERE BASINS ARE REQUIRED SHALL BE REPLACED WITH NEW STANDARD BASINS. ANY DAMAGED OR MISSING HOOD OF FYISTING RASINS WITHIN THE LIMITS OF THIS CONTRACT SHALL DASING HOLD OF EXISTING BASINS WITHIN THE LIMITS OF THIS CONTRACT SHALL
 BE REPLACED WITH NEW STANDARD CAST IRON HOOD AND HOOKS. EXISTING DAMAGED AND NON-STANDARD MANHOLES FRAME AND COVER WITHIN THE LIMITS OF THIS CONTRACT SHALL BE REPLACED WITH NEW STANDARD 27" DIAMETER MANHOLE FRAME AND COVER. THE COST IS TO BE INCLUDED IN THE RESPECTIVE ITEMS.
- 7. ALL ABANDONED BASINS, INLETS AND DRAINAGE STRUCTURES AS SHOWN ON THE CONTRACT PLANS ARE TO BE BULKHEADED AND CUT DOWN TO TWO (2) FEET BELOW THE SUBGRADE AND FILLED WITH COMPACTED CLEAN SAND. BASIN CONNECTIONS NOT REQUIRED SHALL BE PLUGGED AT BOTH ENDS. COST FOR THIS WORK SHALL BE DEEMED INCLUDED IN PRICES BID FOR ALL SCHEDULED ITEMS. ALL ABANDONED BASINS AND BASIN CONNECTIONS MUST BE DONE AS PER NYCDEP STANDARD AND SPECIFICATIONS.
- 8. CATCH BASINS SHALL NOT, UNDER ANY CIRCUMSTANCES, BE CONNECTED TO A SANITARY
- 9. ALL NEW CATCH BASIN CONNECTIONS SHALL BE CONNECTED TO EXISTING SEWERS AT MANHOLES, WITH 12" DUCTILE IRON PIPE, CLASS 56, WITH INTERNALLY LOCKED "PUSH-ON" JOINTS LAID ON 6" OF BROKEN STONE FOR THE ENTIRE WIDTH OF THE TRENCH AND FOR ONE-HALF THE PIPE DIAMETER. THE BROKEN STONE SHALL BE HARD UNWEATHERED STONE UNIFORMLY GRADED FROM 1/4" TO 3/4"IN DIAMETER. IT SHALL CONFORM TO COMMERCIAL 1/4" TO 3/4" STONE. ALL NEW CATCH BASINS SHALL HAVE
- 10. CATCH BASINS SHALL NOT BE LOCATED WITHIN PEDESTRIAN CROSSWALK LIMITS. CATCH BASINS NEAR BUS STOP PADS SHALL BE LOCATED EITHER ENTIRELY WITHIN OR OUTSIDE
- 11. SLOPE ON ALL NEW CATCH BASIN CONNECTIONS SHALL BE A MINIMUM OF 0.5% AND A MAXIMUM OF 4% PROVIDED THE TOTAL DROP BETWEEN THE BASIN AND THE BASIN/MANHOLE IS AT LEAST 6 INCHES.
- 12. CATCH BASINS IN THE PROJECT AREA SHALL BE MAINTAINED OPERABLE AT ALL TIMES. THE DESIGN BUILD CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO AVOID FILLING THE CATCH BASINS WITH DEBRIS WITHIN THE CONTRACT LIMITS DURING THE FILLING THE CEATCH BASINS WITH DEBRIS WITHIN THE CONTRACT LIMITS DURING THE CONTRACT OPERATIONS. IF, AS A RESULT OF CONSTRUCTION, A FLOODING CONDITION OCCURS OR IN THE EVENT THE CONTRACTOR'S OPERATIONS DAMAGE OR BLOCK THE DRAINAGE SYSTEM, THE DESIGN BUILD CONTRACTOR SHALL AT HIS/HER OWN EXPENSE IMMEDIATELY REPAIR OR RESTORE THE DRAINAGE SYSTEM AS DIRECTED BY THE ENGINEER AT NO EXTRA COST TO THE CITY OR STATE.

- 13. IN ACCORDANCE WITH PARAGRAPH *1.06.40 OF THE GENERAL PROVISIONS OF THE STANDARDS SPECIFICATIONS, ALL CASTING AND HARDWARE FROM THE EXISTING MANHOLES AND BASINS WHENEVER FOUND TO BE IN GOOD CONDITION, UPON EXAMINATION BY THE ENGINEER, SHALL REMAIN THE PROPERTY OF THE CITY AND SHALL BE DELIVERED BY THE CONTRACTOR TO A
- 14. THE DESIGN BUILD CONTRACTOR SHALL PROVIDE TEMPORARY MEANS (PIPES, PUMPS, ETC.) TO DRAIN ANY STORM WATER WHICH MAY DEVELOP WITHIN THE PROJECT LIMITS FOR THE DURATION OF CONSTRUCTION. THE DESIGN BUILD CONTRACTOR SHALL SUBMIT A DRAINAGE SCHEME WHICH MUST BE APPROVED BY THE ENGINEER, PRIOR TO THE START OF EACH CONSTRUCTION STAGE, COST OF THIS WORK WILL BE DEEMED TO HAVE BEEN INCLUDED IN THE PRICE BID FOR ALL SCHEDULED ITEMS.
- 15. ALL EXISTING SEWERS AND SEWER HOUSE CONNECTIONS SHOULD BE CONTINUOUSLY MAINTAINED DURING CONSTRUCTION. IF ANY SEWER OR SEWER HOUSE CONNECTION IS TO BE MAINTAINED DURING CONSTRUCTION. IF ANT SEMER OR SERVER HOUSE CONNECTION IS TO BE DISCONNECTED FOR CONSTRUCTION PURPOSES, FLOW SHALL BE MAINTAINED BY FLUMING OR OTHER SUITABLE MEANS AS DIRECTED BY THE ENGINEER AND IN SUCH A MANNER THAT NO BACK-UPS OCCUR. EXISTING SEWERS, HOUSE CONNECTIONS OR OTHER SEWER APPURTENANCES WHICH ARE TO REMAIN, AND WHICH MIGHT BE DISTURBED FOR CONSTRUCTION PURPOSES, SHALL BE RESTORED TO THEIR PRESENT CONDITION AFTER COMPLETION OF THE WORK, AND DAMAGE DONE AS A RESULT OF THE WORK SHALL BE REPAIRED AT NO EXTRA COST TO
- 16. NYCDEP SEWERS: ALL EXISTING NYCDEP SEWERS WITHIN THE FOOTPRINT OF THE PROPOSED WORK AND WITHIN THE INFLUENCE LINES OF THE WORK SHALL BE CCTV INSPECTED. CCTV INSPECTION SHALL BE PERFORMED IN BOTH THE PRE-CONSTRUCTION AND IN THE POST-CONSTRUCTION PHASES. EXTRA CARE SHALL BE TAKEN DURING CONSTRUCTION TO PROTECT THE INTEGRITY OF NYCDEP'S EXISTING SEWER SYSTEM INCLUSIVE OF MANHOLES, CATCH BASINS, SEWERS AND SYSTEM CONNECTIONS. EXISTING NYCDEP MANHOLE FRAMES/COVERS SHALL BE RESET TO THE FINISHED GRADE AND CATCH BASINS SHALL BE POSITIONED PER NYC AGENCY REQUIREMENTS. CONTRACT MR. TERRANCE BROCK (TBROCK ØDEP.NYC.GOV) OF NYCDEP'S COLLECTION SYSTEMS INVESTIGATION (CSI) UNIT FOR COORDINATION OF CCTV SEWER INVESTIGATION. DAMAGE TO THE EXISTING SEWER SYSTEM WITHIN THE DURATION OF THE CONTRACT SHALL BE REPAIRED/REPLACED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO NYSDOT OR NYCDOT.
- 17. NYCDEP DOES NOT ALLOW HIGH-CURB MEDIAN AND NEW TREES DIRECTLY OVER EXISTING INFRASTRUCTURE AS IT WILL HINDER MAINTENANCE OPERATIONS. NEW TREES MUST BE PLANTED AT LEAST 4 FT OUTSIDE THE SHEETING AREA FOR SEWERS.
- 18. INSTALL NYCDEP STANDARD TYPE 1 CATCH BASIN WHERE PROPOSED DEP CATCH BASINS ARE REQUIRED AT LOW POINT, UNLESS SPECIFIED BY DEP.
- 19. MAINTAIN AT LEAST 6 FEET EDGE-TO-EDGE HORIZONTAL CLEARANCE BETWEEN DEP SEWER AND GAS MAIN.
- 20. NYCDEP RECOMMENDS 6 FEET MINIMUM EDGE-TO-EDGE HORIZONTAL CLEARANCES BETWEEN PROPOSED FOUNDATIONS AND SEWER/WATER UTILITIES.
- 21. FOR LOCATIONS REQUIRING FULL DEPTH RECONSTRUCTION IN THE AREA OF A PROPOSED DRAINAGE STRUCTURE, REFER TO NYSDOT STANDARD SHEETS 502-07 AND 502-08 FOR JOINT
- 22. IN THE EVENT THAT A PROPOSED WALL AND/OR RAMP STRUCTURE CROSSES ABOVE NYCDEP'S EXISTING SEWER/WATER MAIN FACILITIES, THE FOUNDATION OF THE WALL SHALL BE DESIGNED AS A BRIDGING STRUCTURE OVER NYCDEP INFRASTRUCTURE WITH A MINIMUM OF 18 INCHES VERTICAL CLEARANCE MAINTAINED BETWEEN THE BOTTOM OF THE WALL FOUNDATION AND TOP OF NYCDEP'S SEWER/WATER MAIN. THE PILES FOR THE BRIDGING SECTION OF THE AND TOP OF MITCHE'S SERRYWATER MAIN. THE PILES FOR THE BRIDGING SECTION OF THE WALL OR RAMP FOUNDATION SHALL BE LOCATED AT LEAST 6'-0" AWAY 'EOGE TO EDGE) FROM NYCDEP'S SEWER/WATER MAIN AND SHOULD BE INSTALLED BY DRILLING (NO HAMMERING IS ALLOWED). THE SELECTION OF THE PROPOSED RAMP/WALL'S BOTTOM ELEVATION AND DESIGN OF THE PILES ADJACENT TO NYCDEP SEWER/WATER MAIN INFRASTRUCTURE SHOULD BE DONE PROPERLY SO NYCDEP WILL BE ABLE TO DO ANY EXCAVATION CLOSE TO THE PILES WITHOUT REQUIRING UNDERPINNING OF THE BARRIER WALL FOR FUTURE SEWER/WATER MAIN
- 23. CARE SHALL BE TAKEN NOT TO DAMAGE EXISTING WATER MAINS RECENTLY CONSTRUCTED IN ADJACENT CONTRACTS, ANY DAMAGE CAUSED BY THE DESIGN-BUILD CONTRACTOR'S OPERATION SHALL BE PREPARED BY THE DESIGN-BUILD CONTRACTOR AS DIRECTED BY THE ENTINEER, AT NO ADDITIONAL COST TO NYSDOT OR NYC.

Revisions Made: Add Note 23.

ADDITIONAL NOTES (WHERE APPLICABLE)

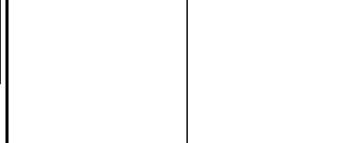
- ALL EXISTING SEWERS WHICH ARE WITHIN THE INFLUENCE LIMITS AND/OR ARE IN CLOSE PROXIMITY OF THE PROPOSED SEWERS/DRAINS MUST BE INSPECTED (TELEVISED IF THE EXISTING SEWERS ARE 36" MUST BE INSPECTED (TELEVISED IF THE EATSING SEWERS ARE 36" DIAMETER OR SMALLER AND A WALK THROUGH PHOTO INSPECTION FOR ALL LARGER SEWERS) BEFORE AND AFTER THE PROPOSED SEWER/DRAIN INSTALLATION WORK TO DETERMINE DAMAGE, IF ANY, TO THE EXISTING SEWERS. ANY DAMAGE TO THE EXISTING SEWERS MUST BE REPAIRED/REPLACED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE CITY OR STATE.
- 2. PRIVATE UTILITIES (ELECTRICAL LINE, GAS MAIN, TELEPHONE LINE, AND CABLE) IMPACTED BY PRIVATE SEWER AND WATER MAIN CONSTRUCTION SHALL BE RELOCATED UNDER THE DIRECTION OF PRIVATE UTILITIES COMPANIES.

THE LATEST REVISIONS OF THE APPLICABLE REFERENCED STANDARDS THAT HAVE BEEN AUTHORIZED UP TO THE START OF ADVERTISING SHALL BE CONSIDERED AS PART OF THESE CONTRACT DOCUMENTS.

LIST OF APPLICABLE NYC D.E.P. STANDARD SEWER SPECIFICATIONS:

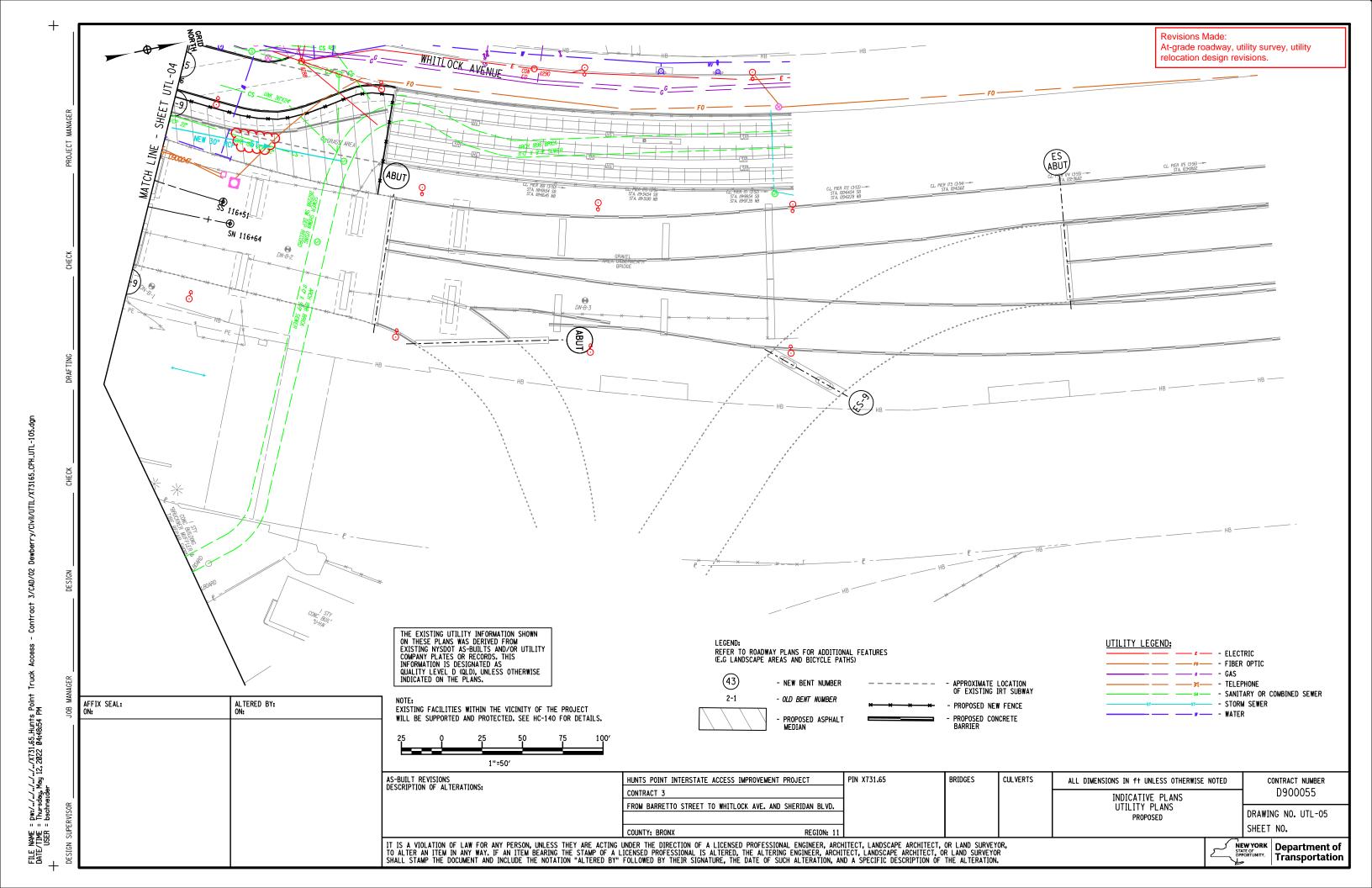
NEW YORK Department of Transportation

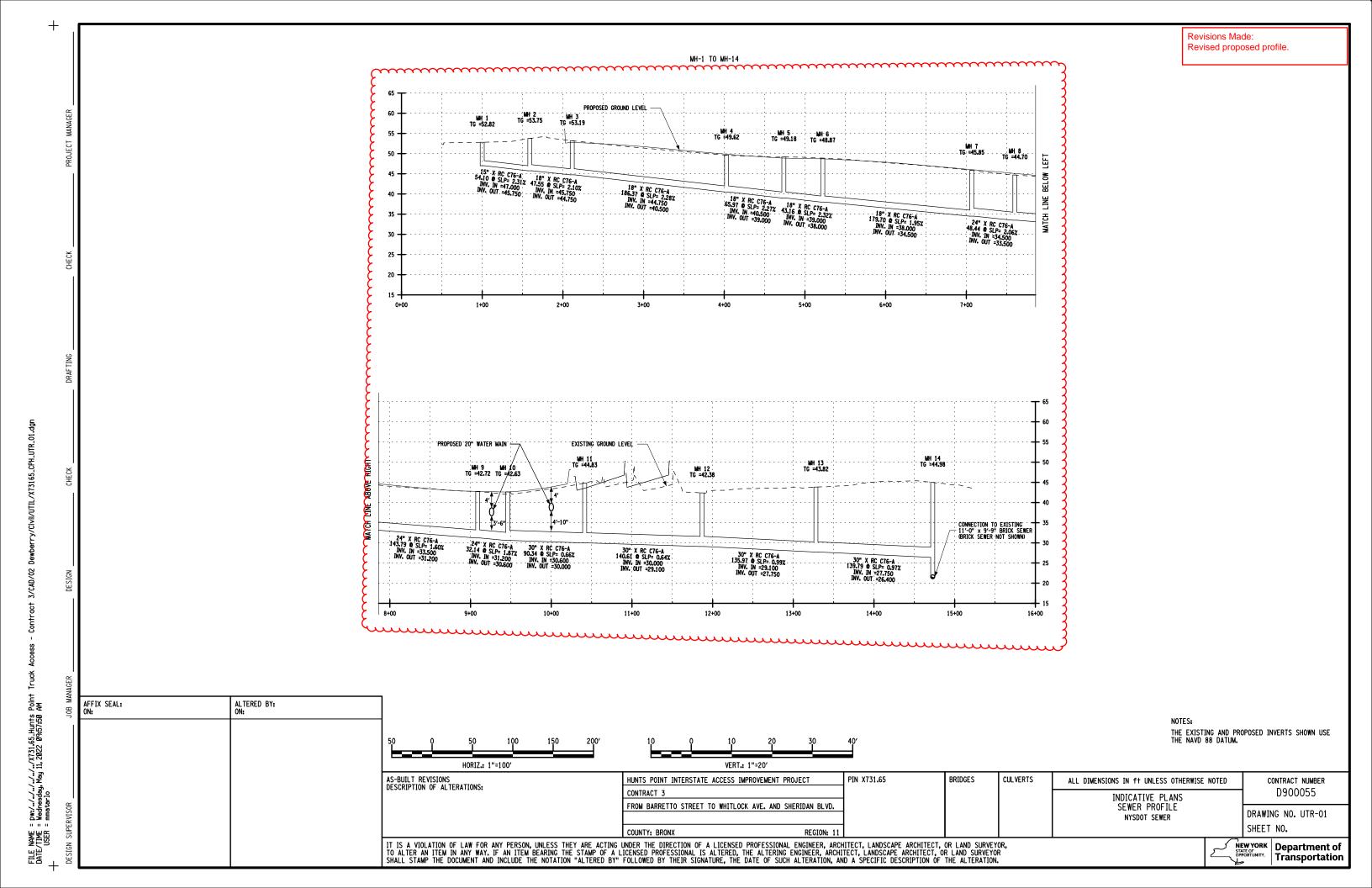
- 1. NYCDEP STANDARD SEWER AND WATER MAIN SPECIFICATIONS;
- NYCDEP SEWER DESIGN STANDARDS.

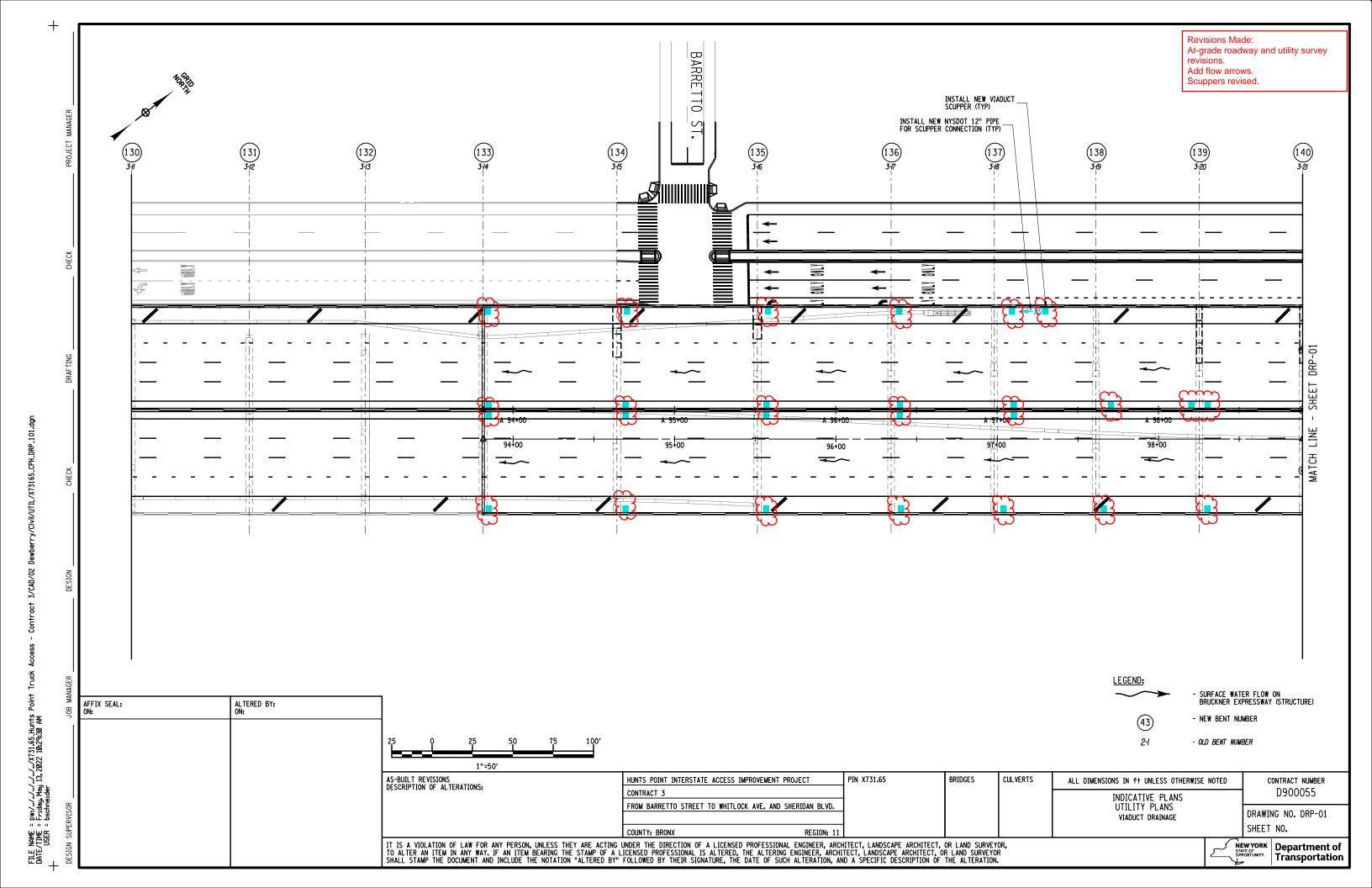


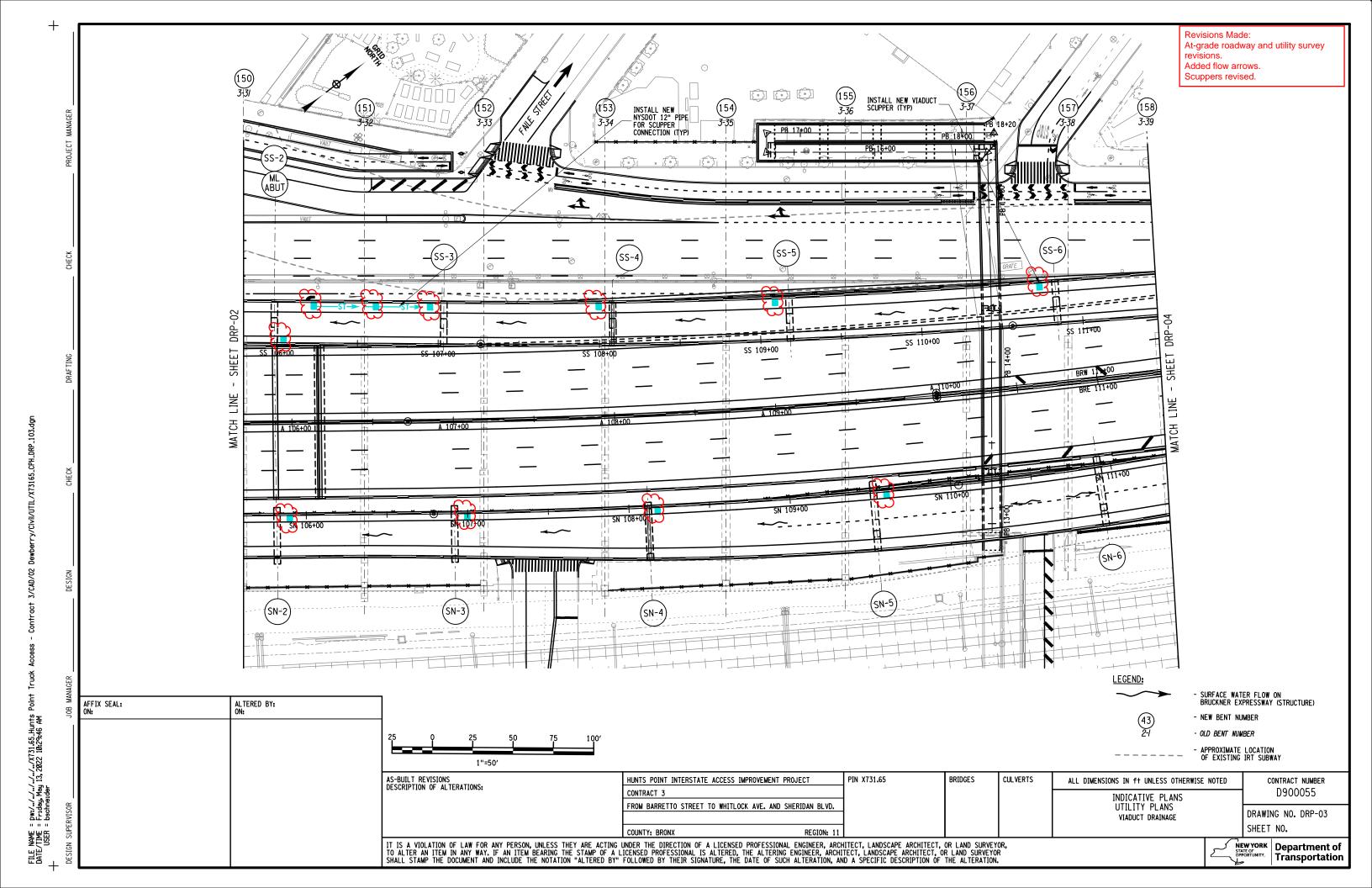
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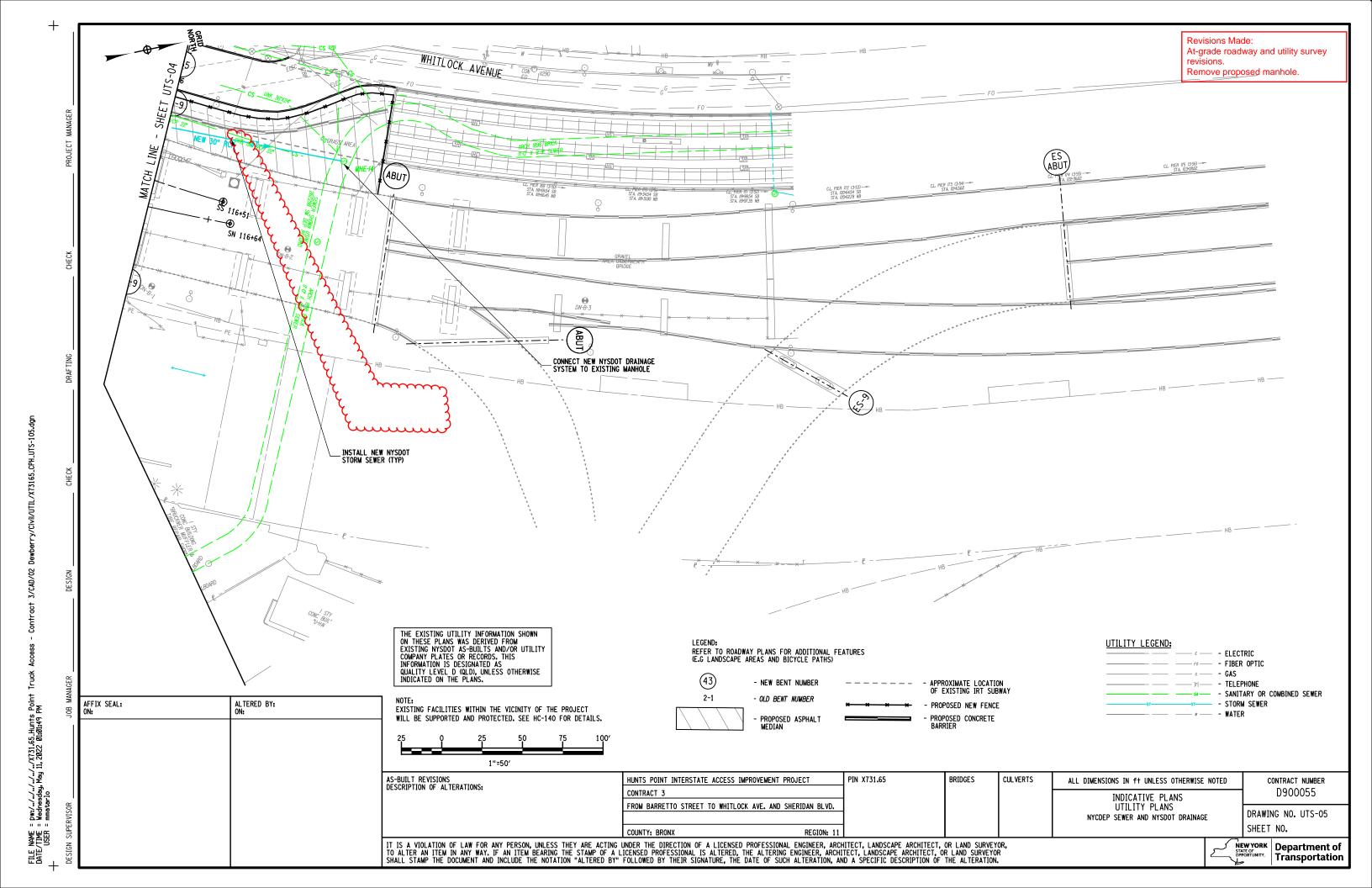
AS-BUILT REVISIONS HUNTS POINT INTERSTATE ACCESS IMPROVEMENT PROJECT PIN X731.65 BRIDGES **CUL VERTS** ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED CONTRACT NUMBER DESCRIPTION OF ALTERATIONS: D900055 CONTRACT 3 INDICATIVE PLANS FROM BARRETTO STREET TO WHITLOCK AVE. AND SHERIDAN BLVD. UTILITY NOTES DRAWING NO. UTN-03 DRAINAGE NOTES SHEET NO. COUNTY: BRONX IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

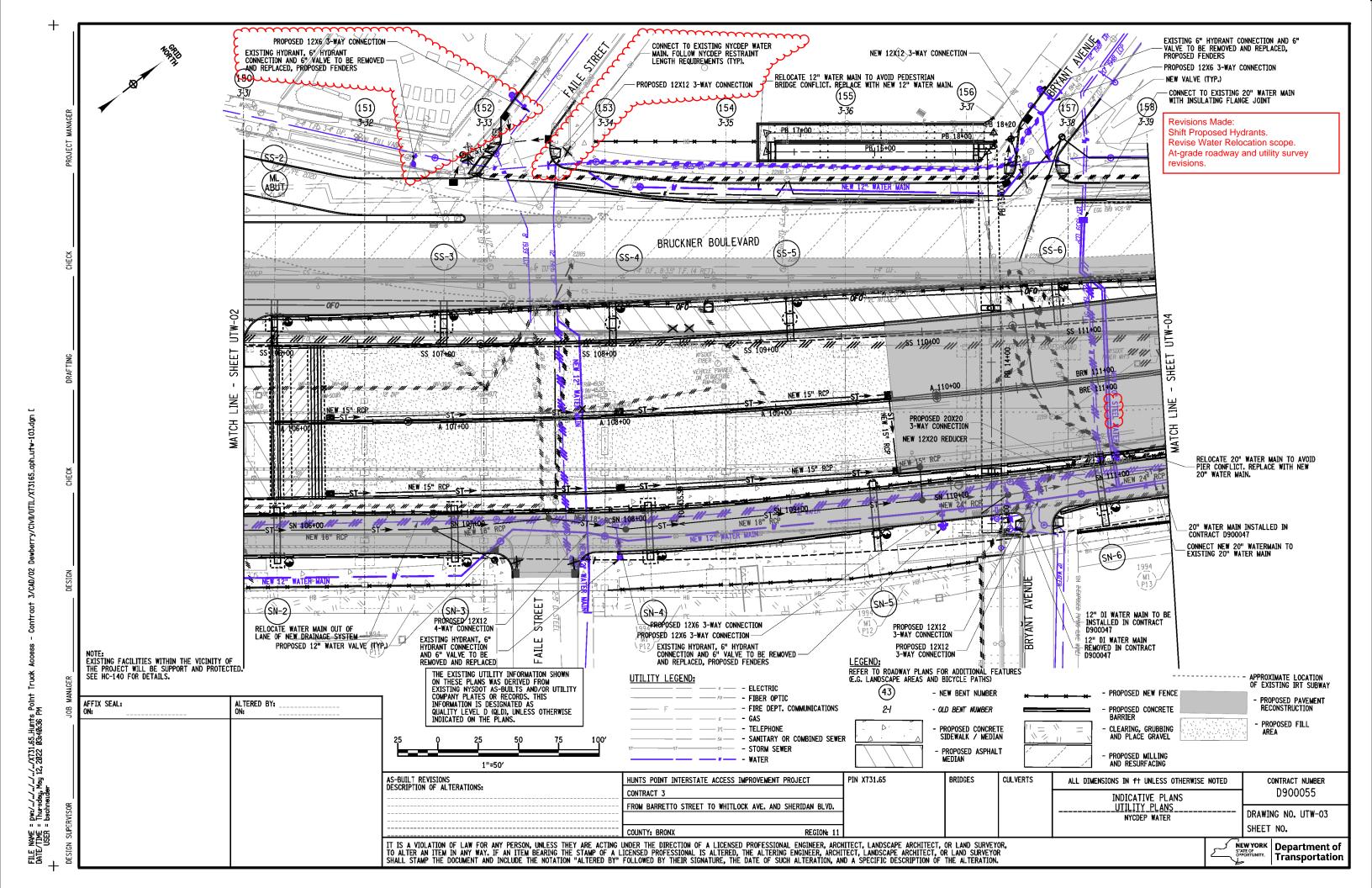












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1/21/2022

EXTERNAL PARTNER PROGRAM ADJACENCY GENERAL NOTES

All notes listed below shall be included in the Project's Contract Drawings.

- 1. The NYC Transit (NYCT) reserves the right to place inspectors, flagmen or other personnel in the subway structures during construction of the project linked by a telephone system, if deemed necessary, to observe the effects of the construction on the transit facilities. NYCT further reserves the right to place such personnel whenever, in its opinion, the project conditions warrant such placement, regardless of distance. The cost of such personnel, telephone installation and any re-routes, diversions of service, work trains, etc., made necessary by the project, must be borne by the project or the responsible New York City/State Agency.
- 2. All rock excavation adjacent to the transit structure shall be channel drilled two feet below subgrade.
- 3. If top of rock is found below subway structure, the subway structure shall be underpinned in accordance with drawings submitted to NYCT for review and approval. Underpinning drawings shall be signed and sealed by a professional engineer licensed in the state of New York.
- 4. If the rock stratum quality is soft or seamy, lateral supports shall be provided below the subway structure in accordance with drawings and calculations submitted to NYCT for review and approval. Lateral support system drawings and calculations shall be signed and sealed by a professional engineer licensed in the state of New York.
- 5. Blasting with light charges only shall be permitted subject to the approval of NYCT's Engineer and in accordance with the regulations of the Fire Department. The Contractor shall provide a detailed monitoring plan, providing for measurements of both particle velocity and displacements at critical locations of the NYCT structure. The monitoring plan shall include threshold and upset levels of both particle velocity and settlement together with an action plan for their implementation. The contractor shall secure an approved seismologist to install and operate suitable velocity gauges to continuously monitor particle velocity and an independent licensed surveyor to monitor displacements. A qualified technician from the monitoring company shall be on site to provide vibration readings upon the request of a NYCT Engineer. The threshold maximum particle velocity above the ambient caused by the blasting shall be 0.5 inch per second. Values exceeding this level shall be reviewed and evaluated by NYCT's Engineer. Measured particle velocities under the blasting work shall not exceed the upset level of 2.0 inches per second at any time.
- 6. Before placing concrete, the subgrade of the foundations in the vicinity of the subway structure shall be inspected and approved by NYCT's Engineer.
- 7. Any damage to NYCT structures or architectural elements shall be repaired and/or replaced with the same in kind, subject to the approval of the NYCT Engineer at the expense of the project.
- 8. Excavation embankments shall be shored and braced. Drawings indicating a suggested method of construction shall be submitted to NYCT for review and approval in conjunction with the project's contract drawings. If it is determined that excavation may undermine NYCT's structural foundation, underpinning shall be required. Drawings and calculations for the underpinning shall be submitted to NYCT for review and approval prior to excavation. Drawings and calculations shall be signed and sealed by a professional engineer licensed in the state of New York.

- 9. Temporary shoring may be placed in direct contact with NYCT structures only if the NYCT structure is shown to be able to support all anticipated (existing and temporary) loads that can be transferred through the temporary structures without damaging or altering the existing structure. All calculations and drawings for the temporary shoring installation and removal shall be signed and sealed by a professional engineer licensed in the state of New York. The calculations and drawings shall be submitted to NYCT for review and approval. At the completion of the project, these temporary shoring and bracing systems shall be removed, or cut-off as approved by NYCT. Any damages incurred during the installation and removal of the temporary shoring shall be repaired and/or replaced to the satisfaction of the NYCT Engineer at the expense of the Contractor.
- 10. When piles are driven or drilled adjacent to the subway structure, boring data, pile layouts, specifications and installation procedures shall be submitted to NYCT for approval. Velocity meters shall be installed in the subway tunnel at critical locations to monitor induced vibrations. Induced displacements along the tunnel structure and track invert shall be monitored during driving or drilling. The threshold maximum particle velocity above the ambient caused by the driving or drilling shall be 0.5 inch per second. Values exceeding this level shall be reviewed and evaluated by the NYCT Engineer. Measured particle velocities due to driving or drilling pile work shall not exceed the upset level of 2.0 inches per second at any time
- 11. No piles shall be installed by any method within three feet of subway structure, measured from the edge of the pile or casing to the wall. Closed-end piles shall not bedriven within ten feet of the subway structure.
- 12. All piles shall be placed within a pre-augered cased hole to the influence line. The casing shall be cleaned without disturbing the soil outside the casing and the pile shall be placed within the casing for installation. The piles may then be driven beyond the influence line within the casing.
- 13. The influence line shall start at the bottom of the subway structure and extend from 1H:1V to 2H:1V slope depending on the soil properties and ground water table. For piles installed within ten feet of the subway structure, the casing shall extend to the bottom of the subway structure.
- 14. All piles shall be driven or drilled a minimum of ten feet below the intersection of the pile centerline and the influence line of the subway structure.
- 15. The use of "down-the-hole-hammers" for installation of piles through overburden and fill shall be permitted only to remove boulders. This method shall not be permitted as a matter of course to advance the hole. Furthermore, this method used to construct rock sockets shall not be allowed within 5 feet of the NYCT structure. The use of machine utilizing air for soil removal shall not be allowed.
- 16. Vibratory hammers shall not be permitted within 75 feet of subway structures. Hoe rams shall not be permitted within 25 feet of subway structures.
- 17. Dynamic compaction methods using dropped heavy weights shall not be conducted within 1000 feet of any NYCT structure unless it is shown that induced settlements and vibrations will not damage these structures. A suitable monitoring plan including settlement and vibration measurements shall be approved by the NYCT Engineer for all such operations within these distances prior to work.
- 18. There shall be no machine excavation within 3 feet of NYCT structures, power duct lines, or any other facilities until they have been carefully exposed by hand excavation.
- 19. All dewatering operations conducted within 500 feet of the NYCT structure shall be performed in accordance with drawings, calculations and procedures signed and sealed by a professional engineer licensed in the state of New York. These drawings, calculations and procedures shall be submitted to NYCT for review and approval. The distance from the structure to the dewatering operation may be reduced provided that soil conditions at the site indicate that the radius of influence of the dewatering is less than 500 feet. For dewatering within the radius of influence, the dewatering program shall be shown to have negligible influence on settlements of the NYCT structure.

- 20. Subway entrances, ventilators, vaults and any NYCT appurtenances at the sidewalk shall be underpinned or shored and braced if directed by NYCT's Engineer.
- 21. NYCT, at its discretion, reserves the right to require the project to close or maintain and protect existing subway entrances, ventilators, structures and property adjacent to the project during construction. Such construction may include underpinning, shoring, bracing and erection of suitable barricades and/or canopies and shields. Such protection shall be in accordance with drawings and calculations submitted to NYCT for review and approval. All drawings and calculations submitted to NYCT shall be signed and sealed by a professional engineer licensed in the state of New York.
- 22. Temporary and permanent shield installation plans and calculations protecting NYCT facilities and/or the public shall be submitted to NYCT for approval. The plans shall include the location, design load, type and method of attachment to the transit structure. These plans and calculations submitted to NYCT shall be signed and sealed by a professional engineer licensed in the state of New York.
- 23. All lumber and plywood used for protection of subway facilities shall be fire retardant.
- 24. Subway emergency exits shall be kept clear at all times.
- 25. Special care shall be exercised when excavating over or near the subway roof so that the thin concrete protection of the subway waterproofing is not damaged. Repair plans for damage to the water protection waterproofing layer during excavation shall be submitted for NYCT approval. Repair work shall be performed before excavated area is filled, closed or covered up at no expense to NYCT.
- 26. Burning of, welding to or drilling through existing steel structures shall not be permitted except as shown on drawings approved by NYCT.
- 27. Horizontal and vertical control survey data of the existing NYCT structure shall be performed by a Licensed Land Surveyor to monitor any movements that occur during construction and to certify that the induced movements are within the limits noted below. If any movements require work to be stopped based on the values below, a remediation plan shall be submitted to NYCT for approval by NYCT prior to the rehabilitation and repair work..

Structure Type	Monitored & Measured Movement	Action to Take
Elevated	1/8 inch or more	Notify NYCT Engineer
Elevated	1/4 inch or more	Stop Work
Subway	1/4 inch or more	Notify NYCT Engineer
Subway	½ inch or more	Stop Work

28. Bus routes affected by the project may require bus diversions. These arrangements shall be made through:

Ms. Sarah Wyss
Senior Director, Operations Planning
New York City Transit
2 Broadway, Room A17.82
New York, New York 10004

Telephone Number (646) 252-5517

When impacting any bus stop, Special Operations shall be notified two weeks in advance.

29. Duct lines shall be maintained and protected during construction. Any interference with duct lines shall be reported to the NYCT Engineer. When a duct line containing cables is to be removed, or when masonry adjacent thereto is

to be removed, penetrated, or drilled, the work shall be done with hand labor entirely, using hammer and chisel. Jackhammers, bull points or other power equipment shall not be used.

30. Where manholes are encountered:

- a) They shall be protected and raised or lowered as required, to match the new street grade.
- b) If manhole covers are raised or lowered, protect cables in manhole by wood sheeting of 2" nominal thickness.
- c) Prior to the start of construction operations affecting manholes and duct lines, seven days notice must be given to Mr. Lionel Saint Louis P.E., Assistant Chief Officer, Inspections and Emergency Response, MOW Engineering, at 347-672-2448, lionel.saintlouis@nyct.com.
- 31. Construction work done near vent gratings and hatches shall be as follows:
 - a) Unless approved by the NYCT Engineer, all vent gratings and hatches shall remain outside the construction site, separated by a construction fence. Protective shields shall be provided over vent gratings as required by the NYCT Engineer.
 - b) No building material, vehicles or construction equipment shall be stored or cover over vent, gratings, hatches or emergency exits.
 - c) Details of sidewalk reconstruction around vent gratings, entrances, hatches and emergency exits shall be submitted to NYCT for approval.
- 32. Tractors, cranes, excavators, and any heavy equipment used in the vicinity of the elevated structures shall be isolated from the ground. Since the elevated structure is used as a negative return path, with a consequent potential between it and the ground, any contact between the structure and grounded equipment could result in burning of the steel.
- 33. Temporary construction sheds, barricades or plywood partitions shall be a minimum of 5'-0" from edge of finished platform. All barricade plans shall be submitted to NYCT's Office of Station Programs for review and approval.
- 34. The general requirements for NYCT Station Areas or Stairway/Closings are as follows:
 - a) Only one stairway at each station shall be permitted to be closed at the same time. Approvals for closing any stairway shall be obtained from the Division of Station Programs at least three weeks in advance.
 - b) Ms. Susannah Harrington, Director, Office of Station Programs; Telephone 718-694-4891, Email susannah.harrington@nyct.com of the Division of Stations shall be notified three weeks prior to the actual closing and reopening of the entrance.
 - c) Signage shall be supplied and posted at least two weeks in advance, advising the public of the proposed subway stair closing. However, if it is an entire entrance closing, signage shall be posted two weeks in advance.
 - d) The street entrance stairway shall not be closed unless manpower and materials are available to commence work on dates permitted.
 - e) Once the closing is effective, construction signs shall be placed at appropriate locations on the barricades at the street and mezzanine levels, stating the contractor's name, 24 hour emergency telephone number, contract number, the duration of the closing, direction to an alternate entrance/exit, and an apology for the inconvenience to our customers.
 - f) Existing station signage shall be adjusted to reflect any changes in access/egress.

- g) Barricades shall be painted Federal Blue and be made of fire rated material. Barricades shall be kept graffiti free at all times. The contractor shall maintain the barricaded area clean of all debris.
- h) All materials shall be properly stored and secured away from customer traffic.
- i) The Contractor shall remove all waste material and barricades from all station areas when construction is completed.
- Inspection of the area under construction by authorized NYCT Station Department employees shall not be inhibited.
- k) If streetlights on the sidewalks are affected, temporary lights shall be provided.
- 35. If new concrete construction is designed to join to existing concrete, dowels, lap splices and keyways shall be used in accordance with NYCT Standards. Otherwise, cold joints shall be designed in accordance with NYCT Standards.
- 36. If the project involves construction or alteration of a subway facility on private property, the property owners shall enter into an agreement with NYCT pertaining to all work affecting the transit facilities with clearly defined limits and responsibility for maintenance and liability.
- 37. Wherever a new sidewalk is being placed adjacent to NYCT structures the following shall be required:
 - a) The top of the new sidewalk shall be flush with the subway vent gratings, hatches and emergency exits.
 - b) The slope of the new sidewalk shall be such that the drainage be away from these structures.
 - c) A 1/2" premolded filler shall be installed between the new sidewalk and the NYCT structure.
 - d) Where sidewalk elevations are being changed, details of proposed work around NYCT structures shall be submitted for approval.
- 38. Before entering NYCT property, Contractor or Subcontractor's personnel shall have attended NYCT Track Safety Training and expect to follow NYCT rules and regulations as per training and instructions.
- 39. Before the start of any work, the Contractor shall make an examination, in the presence of NYCT's Engineer, of the interior and exterior of NYCT subway or other structure adjacent to the proposed work. The person or persons authorized by the Contractor to make these examinations shall be approved by the Engineer. The Contractor shall take all photographs as may be necessary or ordered to indicate the existing condition of NYCT structure. Any structurally deficient condition shall be made safe prior to the commencement of the work. A copy of the field report with photos shall be submitted to Mr. Lionel Saint Louis, P.E., Assistant Chief Officer, Inspections and Emergency Response, MOW Engineering, 130 Livingston Street, Room 8046, Brooklyn, New York 11201, Telephone 347-672-2448, Email lionel.saintlouis@nyct.com before the start of construction.
- 40. All architectural details (service booths, railings, doors, etc.) shall conform to the latest NYCT Standards. These standards are available at NYCT.
- 41. Standard NYCT Insurance Clauses shall be made part of the Project's Contract Drawings. Proof that the necessary insurance is in effect shall be required before work can commence.
- 42. At the close of any project involving construction or alterations to transit facilities, a pdf and electronic copies complying to microstation.dgn format of "approved as-builts" must be provided to NYCT for its records. For details of specific requirements, contact MTA Construction and Development External Partner Program.

- 43. At least three weeks prior to the start of construction operations, notification shall be given to Mr. Lionel Saint Louis, P.E., Assistant Chief Officer, Inspections and Emergency Response, MOW Engineering.
- 44. If changed field conditions are found or deviations are made from the approved drawings, revised drawings shall be resubmitted for MTA approval.



GARY Labarbera President AFFILIATED WITH THE BUILDING CONSTRUCTION TRADES DEPARTMENT OF WASHINGTON, DC

BUILDING AND CONSTRUCTION TRADES COUNCIL OF NEW YORK STATE

AMERICAN FEDERATION OF LABOR OF CONGRESS
OF INDUSTRIAL ORGANIZATION

March 30, 2022

To: All Affiliates

From: Gary LaBarbera

Re: Finalized Project Labor Agreement

As you are aware, the Building and Construction Trades Department of Washington, D.C. has approved the following project. This letter is to inform you that the PLA listed has been executed.

NYS DOT PLA – Hunts Point Access Improvements (Contract 3) PIN #X731.65

Attached please find an executed copy of the agreement. If you have any questions, please do not hesitate to contact our office.

Yours in Solidarity,

Gary LaBarbera

NYS DOT PLA – HUNTS POINT ACCESS IMPROVEMENTS (CONTRACT 3) PIN #X 731.65

IN WITNESS WHEREOF the parties have caused this Agreement to be executed and effective
as of theday of,
FOR BUILDING AND CONSTRUCTION TRADES COUNCIL
OF GREATER NEW YORK AND VICINITY
BY: Laur La Barbera, President
THE PRIME CONTRACTOR
BY:
(name_title)

Execution Copy 3.1.22 32

PROJECT LABOR AGREEMENT

BETWEEN

NEW YORK STATE DEPARTMENT OF TRANSPORTATION DESIGN BUILD BUILDER AND THE

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER
NEW YORK AND VICINITY

FOR THE HUNTS POINT ACCESS IMPROVEMENTS (CONTRACT 3)

PIN# X731.65

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PROJECT LABOR AGREEMENT

ARTICLE 1- PREAMBLE

WHEREAS, the New York State Department of Transportation, (NYSDOT or Department) has a contract with the Design Build Builder (hereinafter called "Prime Contractor") to perform design and construction services for its project for the rehabilitation of the Hunts Point Access Improvements (Contract 3),

WHEREAS, the New York State Department of Transportation and The Prime Contractor desire to provide for the cost efficient, safe, quality, and timely completion of the project ("Project Work," as defined in Article 3);

WHEREAS, it is estimated that the cost of construction of the Project will exceed forty million dollars, and

WHEREAS, as a result, the Department authorized a contract with Hill International, ("Hill") to perform a Needs Assessment/Due Diligence Report for a possible Project Labor Agreement with respect to the Project, and

WHEREAS, on January 20, 2022, Hill submitted a final Due Diligence Study which recommended negotiation of a PLA with respect to the Project, and

WHEREAS, the terms of this Agreement were the subject of the Due Diligence Study; and

WHEREAS, the Department of Transportation adopted the findings and recommendations of the Due Diligence Study on February 12, 2022, and

WHEREAS, this Project Labor Agreement will foster the achievement of these goals, inter alia, by:

- (1) providing a mechanism for responding to the unique construction needs associated with this Project Work and achieving the most cost effective means of construction, including direct labor cost savings, by the Building and Construction Trades Council of Greater New York and Vicinity and the signatory Local Unions and their members waiving various shift and other hourly premiums and other work and pay practices which would otherwise apply to Project Work;
- (2) expediting the construction process and otherwise minimizing the disruption to the Department's ongoing operations at the facilities that are the subject of the Agreement;

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- (3) avoiding the costly delays of potential strikes, slowdowns, walkouts, picketing and other disruptions arising from work disputes, reducing jobsite friction on common situs worksites, and promoting labor harmony and peace for the duration of the Project Work;
- (4) standardizing the terms and conditions governing the employment of labor on the Project Work;
- (5) permitting wide flexibility in work scheduling and shift hours and times to allow maximum work to be done during off hours yet at affordable pay rates;
- (6) permitting adjustments to work rules and staffing requirements from those which otherwise might obtain;
- (7) providing comprehensive and standardized mechanisms for the settlement of work disputes, including those relating to jurisdiction;
 - (8) ensuring a reliable source of skilled and experienced labor; and
 - (9) securing applicable New York State Labor Law exemptions.

WHEREAS, the Building and Construction Trades Council of Greater New York and Vicinity, its participating affiliated Local Unions and their members, desire to assist the Department and the Prime Contractor in meeting these operational needs and objectives as well as to provide for stability, security and work opportunities which are afforded by this Project Labor Agreement; and

WHEREAS, the Parties desire to maximize Project Work safety conditions for both workers and the community in the project area; and

NOW, THEREFORE, the Parties enter into this Agreement:

SECTION 1. PARTIES TO THE AGREEMENT

This is a Project Labor Agreement ("Agreement") entered into by the Prime Contractor and the Building and Construction Trades Council of Greater New York and Vicinity ("Council") (on behalf of itself) and the signatory affiliated Local Union's ("Unions" or "Local Unions"). The Council and each signatory Local Union hereby warrants and represents that it has been duly authorized to enter into this Agreement.

ARTICLE 2 - GENERAL CONDITIONS

SECTION 1. DEFINITIONS

Throughout this Agreement, the various Union parties including the Building and Construction Trades Council of Greater New York and Vicinity and its participating affiliated Local Unions, are referred to singularly and collectively as "Union(s)" or "Local Unions." The term "Contractor(s)" shall include the Prime Contractor and all other contractors, and subcontractors of all tiers engaged in Project Work within the scope of this Agreement as defined in Article 3. The Building and Construction Trades Council of Greater New York and Vicinity is referred to as the "Council." The work covered by this Agreement (as defined in Article 3) is referred to as "Project Work."

SECTION 2. CONDITIONS FOR AGREEMENT TO BECOME EFFECTIVE

This Agreement shall not become effective unless each of the following conditions are met: the Agreement is executed by (1) the Council, on behalf of itself, (2) the participating affiliated Local Unions; and (3) an Executive Officer of the Prime Contractor with authority to bind the organization; and the Agreement is approved by (1) the Building and Construction Trades Department, and (2) the Federal Highway Administration of the U.S. Department of Transportation.

SECTION 3. ENTITIES BOUND & ADMINISTRATION OF AGREEMENT

This Agreement shall be binding on all participating Unions and their affiliates, and all Contractors of all tiers performing Project Work as defined in Article 3. The Prime Contractor, and all other Contractors shall include in any subcontract that they let for performance during the term of this Agreement a requirement that their subcontractors, of all

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tiers, become signatory and bound by this Agreement with respect to that subcontracted work falling within the scope of Article 3 and all Contractors performing Project Work shall be required to sign a "Letter of Assent" in the form annexed hereto as Exhibit "A." This Agreement shall be administered by the Prime Contractor on behalf of all Contractors.

SECTION 4. SUPREMACY CLAUSE

This Agreement, together with the local Collective Bargaining Agreements as listed in Schedule "A," represents the complete understanding of all signatories and supersedes any national agreement, local agreement or other collective bargaining agreement of any type which would otherwise apply to this Project Work, in whole or in part, except work performed under the NTL Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, all instrument calibration work and loop checking which shall be performed under the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians, and the National Agreement of the International Union of Elevator Constructors, with the exception of the dispute resolution mechanisms contained herein; and provided further that Project Work which falls within the jurisdiction of the Operating Engineers Locals 14 and 15 will be performed under the terms and conditions set out in the Schedule "A" agreements of Operating Engineers Locals 14 and 15. Subject to the foregoing, where a subject covered by the provisions of this Agreement is also covered by a Schedule "A," the provisions of this Agreement shall prevail. It is further understood that no Contractor shall be required to sign any other agreement as a condition of performing Project Work. No practice, understanding or agreement between a Sub Contractor and a Local Union, which is not set forth in this Agreement, shall be binding on this Project Work unless endorsed in writing by the Prime Contractor. Nothing in this Agreement requires employees to join a union or pay dues or fees to a union as a condition of working on the covered project. This Agreement is not, however, intended to supersede independent requirements in applicable local union agreements as to contractors that are otherwise signatory to those agreements and as to employees of such employers performing covered work.

SECTION 5. LIABILITY

The liability of any Contractor and the liability of any Union under this

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Agreement shall be several and not joint, the Prime Contractor and any Contractor shall not be liable for any violations of this Agreement by any other Contractor; and the Council and Local Unions shall not be liable for any violations of this Agreement by any other Union.

SECTION 6. THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION

The Prime Contractor shall require for all Project Work within the scope of Article 3 that all successful bidders, and their subcontractors of all tiers, become bound by, and signatory to, this Agreement. Neither the Department nor the Prime Contractor shall be liable for any violation of this Agreement by any Contractor. It is understood that nothing in this Agreement shall be construed as limiting the sole discretion of the Prime Contractor in determining which Contractors shall be awarded contracts for Project Work. The NYSDOT shall require in its bid specifications for the Prime Contractor for work within the scope of Article 18, Section 2, that each subcontractor shall execute the Letter of Assent to become bound by this Agreement. The NYSDOT is not a party to this Agreement and shall not be liable in any manner under this Agreement; but the NYSDOT is an intended third party beneficiary of this Agreement. It is understood that nothing in this Agreement shall be construed as limiting the sole discretion of the NYSDOT or the Prime Contractor (or its designee) in determining which Contractors shall be awarded contracts for Project work. It is further understood that the NYSDOT or the Prime Contractor have sole discretion at any time to terminate, delay, or suspend the work, in whole or part, on the Project, or in the case of NYSDOT, to undertake any of the work itself without regard to this Agreement.

SECTION 7. AVAILABILITY AND APPLICABILITY TO ALL SUCCESSFUL BIDDERS

The Unions agree that this Agreement will be made available to, and will fully apply to, any successful bidder for (or subcontractor of) Project Work who becomes signatory thereto, without regard to whether that successful bidder (or subcontractor) performs work at other sites on either a union or non-union basis and without regard to whether employees of such successful bidder (or subcontractor) are, or are not, members of any unions. This Agreement shall not apply to the work of any Contractor that is performed at any location other than the site of Project Work.

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SECTION 8. SUBCONTRACTING

The Prime Contractor and Contractors will subcontract Project Work only to a person, firm or corporation who is or agrees to become party to this Agreement.

ARTICLE 3-SCOPE OF THE AGREEMENT

SECTION 1. WORK COVERED

The Project work covered by this Agreement shall be as defined and limited by the following sections of this Article.

The Hunts Point Access Improvements (Contract 3) is a Design-Build Project composed of various improvements to the Bruckner Expressway, Bruckner Boulevard, and the Bryant Street Pedestrian Bridge. The Project includes:

Ramp Removals:

- Removal of Eastbound Bruckner Expressway (Ramp P)
- Removal of Westbound Bruckner Expressway (Ramp M)
- Removal of Sheridan Boulevard Southbound Ramp
- Removal of Sheridan Boulevard Northbound Ramp
- Removal of On-Ramp (Ramp N) from Hunts Point Avenue to Sheridan Boulevard Northbound

Construction of New Ramps:

- Ramp SS from Southbound Sheridan Boulevard to Westbound Bruckner Expressway
- Ramp SN from Eastbound Bruckner Expressway to Northbound Sheridan Boulevard

Bruckner Expressway:

- Rehabilitation, widening, and structural modifications of Bruckner Expressway viaduct from Barretto Street to Hoe Avenue, including deck replacement and improvements to existing piers
- Construction and widening of Bruckner Expressway at-grade section from Hoe

Avenue to Whitlock Avenue

Bruckner Boulevard:

- Pavement rehabilitation from Barretto Street to Whittier Street
- Redesign of local street intersections with wider medians and shorter crosswalks to improve pedestrian safety
- Construction of a shared-use path along the Bruckner Boulevard from Barretto Street to Whittier Street

SECTION 2. TIME LIMITATIONS

In addition to falling within the scope of Article 3, Section 1, to be covered by this Agreement Project Work must be advertised and let for bid on November, 2022 or after the effective date of this Agreement. It is understood that this Agreement, together with all of its provisions, shall remain in effect for all such Project Work until completion.

SECTION 3. EXCLUDED EMPLOYEES

The following persons are not subject to the provisions of this Agreement, even though performing Project Work:

- A. Superintendents, supervisors (excluding general forepersons, forepersons, and field surveyors, specifically covered by a craft's Schedule "A" collective bargaining agreement), engineers, professional engineers and/or licensed architects engaged in inspection and testing, quality control/assurance personnel, timekeepers, mail carriers, clerks, office workers, messengers, guards, technicians, non-manual employees, and all professional, engineering, administrative and management persons;
- B. Employees of the Department of Transportation, or any other municipal or State agency, authority or entity, or employees of any other public employer, even though working on the Project site while covered Project Work is underway;
- C. Employees and entities engaged in off-site manufacture, modifications, repair, maintenance, assembly, painting, handling or fabrication of project

components, materials, equipment or machinery or involved in deliveries to and from the Project site, except to the extent they are lawfully included in the bargaining unit of a Schedule "A" collective bargaining agreement;

- D. Employees of the Prime Contractor (except that employees of the Prime Contractor performing manual, on site construction labor will be covered by this Agreement);
- E. Employees engaged in on-site equipment warranty work unless employees are already working on the site and are certified to perform warranty work;
- F. Employees engaged in geophysical testing other than boring for core samples;
- G. Employees engaged in laboratory, specialty testing, or inspections, pursuant to a professional services agreement between the Prime Contractor, or any of the Prime Contractor's other professional consultants, and such laboratory, testing, inspection or surveying firm; and
- H. Employees engaged in on-site maintenance of installed equipment or systems which maintenance is awarded as part of a contract that includes Project Work but which maintenance occurs after installation of such equipment or system and is not directly related to construction services.

SECTION 4. NON-APPLICATION TO CERTAIN ENTITIES

This Agreement shall not apply to those parents, affiliates, subsidiaries, or other joint or sole ventures of any Contractor that do not perform Project Work. It is agreed that this Agreement does not have the effect of creating any joint employment, single employer or alter ego status among the Prime Contractor or any Contractor, The Agreement shall further not apply to any New York State or any municipal or State agency, authority, or entity other than the Prime Contractor and nothing contained herein shall be construed to prohibit or restrict the Prime Contractor or its employees, or any State, or municipal or State authority, agency or entity and its employees, from performing on or off-site work related to Project Work.

As the contracts involving Project Work are completed and accepted, the Agreement shall not have further force or effect on such items or areas except where

inspections, additions, repairs, modifications, check-out and/or warranty work are assigned in writing (copy to Local Union involved) by the Prime Contractor for performance under the terms of this Agreement.

ARTICLE 4- UNION RECOGNITION AND EMPLOYMENT

SECTION 1. PRE-HIRE RECOGNITION

The Prime Contractor and Contractors recognize the signatory Unions as the sole and exclusive bargaining representatives of all employees who are performing on-site Project Work, with respect to that work.

SECTION 2. UNION REFERRAL

- A. The Prime Contractor and Contractors agree to utilize, employ and hire craft employees for Project Work covered by this Agreement through the job referral systems and hiring halls established in the Local Unions' area collective bargaining agreements. Notwithstanding this, Contractors shall have sole right to determine the competency of all referrals; to determine the number of employees required; to select employees for layoff (subject to Article 5, Section 3); and the sole right to reject any applicant referred by a Local Union for cause, subject to the show-up payments. In the event that a Local Union is unable to fill any request for qualified employees within a 48 hour period after such requisition is made by a Contractor (Saturdays, Sundays and holidays excepted), a Contractor may employ qualified applicants from any other available source, In the event that the Local Union does not have a job referral system, the Contractor shall give the Local Union first preference to refer applicants, subject to the other provisions of this Article. The Contractor shall notify the Local Union of craft employees hired for Project Work within its jurisdiction from any source other than referral by the Union.
- B. A Contractor may request by name, and the Local will honor, referral of persons who have applied to the Local for Project Work and who meet the following qualifications:
 - (1) possess any license required by New York State law for the Project Work to be performed;

- (2) have worked a total of at least 1000 hours in the Construction field during the prior 3 years; and
- (3) were on the Contractor's active payroll for at least 60 out of the 180 calendar days prior to the contract award.

No more than twelve per centum (12%) of the employees covered by this Agreement, per Contractor by craft, shall be hired through the special provisions above. Under this provision, name referrals begin with the eighth employee needed and continue on that same basis.

SECTION 3. NON-DISCRIMINATION IN REFERRALS

The Council represents that each Local Union hiring hall and referral system will be operated in a non-discriminatory manner and in full compliance with all applicable federal, state and local laws and regulations that require equal employment opportunities. Referrals shall not be affected in any way by the rules, regulations, bylaws, constitutional provisions or any other aspects or obligations of union membership, policies or requirements and shall be subject to such other conditions as are established in this Article, No employment applicant shall be discriminated against by any referral system or hiring hall because of the applicant's union membership, or lack thereof.

SECTION 4. MINORITY AND FEMALE REFERRALS

In the event a Local Union either fails, or is unable to refer qualified minority or female applicants in percentages equaling the workforce participation goals adopted by the Department and set forth in the Prime Contractor's bid specifications, within 48 hours of the request for same, the Contractor may employ qualified minority or female applicants from any other available source.

SECTION 5. DBE CONTRACTORS

The Local Unions recognize that the NYS Department of Transportation has a program to encourage and foster work opportunities for certified Disadvantaged Business Enterprises (DBEs) and the Local Unions will work cooperatively with the NYS Department of Transportation and Prime Contractor in their efforts to provide such work opportunities.

SECTION 6. CROSS AND QUALIFIED REFERRALS

The Local Unions shall not knowingly refer to a Contractor an employee then employed by another Contractor working under this Agreement. The Local Unions will exert their utmost efforts to recruit sufficient numbers of skilled and qualified craft employees to fulfill the requirements of the Contractor.

SECTION 7. CRAFT FOREPERSONS AND GENERAL FOREPERSONS

The selection of craft forepersons and/or general forepersons and the number of forepersons required shall be solely the responsibility of the Contractor except where otherwise provided by specific provisions of an applicable Schedule "A" collective bargaining agreement, and provided that all craft forepersons shall be experienced and qualified journeypersons in their trade as determined by the appropriate Local Union. All forepersons shall take orders exclusively from the designated Contractor representatives. Craft forepersons shall be designated as working forepersons at the request of the Contractor, except when an existing local collective bargaining agreement prohibits a foreperson from working when the craft persons he is leading exceed a specified number.

ARTICLE 5- UNION REPRESENTATION

SECTION 1. LOCAL UNION REPRESENTATIVE

Each Local Union representing on-site employees shall be entitled to designate in writing (copy to Contractor involved and Prime Contractor) one representative, and/or the Business Manager, who shall be afforded access to the Project Work site.

SECTION 2. STEWARDS

- A. Each Local Union shall have the sole discretion to select and designate any working journey person as a Steward and an alternate Steward. The Union shall notify the Contractor and Prime Contractor of the identity of the designated Steward and alternate prior to the assumption of such duties. Stewards shall not exercise supervisory functions and will receive the regular rate of pay for their craft classifications. All Stewards shall be working Stewards.
- B. In addition to their work as an employee, the Steward shall have the right to receive complaints or grievances and to discuss and assist in their adjustment with

the Contractor's appropriate supervisor. Each Steward shall be concerned with the employees of the Steward's trade and, if applicable, subcontractors of their Contractor, but not with the employees of any other trade Contractor. No Contractor shall discriminate against the Steward in the proper performance of Union duties.

C. The Stewards shall not have the right to determine when overtime shall be worked, or who shall work overtime except pursuant to a Schedule "A" collective bargaining agreement provision providing procedures for the equitable distribution of overtime.

SECTION 3. LAYOFF OF A STEWARD

Contractors agree to notify the appropriate Union 24 hours prior to the layoff of a Steward, except in cases of discipline or discharge for just cause. If a Steward is protected against layoff by a Schedule "A" collective bargaining agreement provision, such provision shall be recognized to the extent the Steward possesses the necessary qualifications to perform the work required. In any case in which a Steward is discharged or disciplined for just cause, the Local Union involved shall be notified immediately by the Contractor.

ARTICLE 6- MANAGEMENT'S RIGHTS

SECTION I. RESERVATION OF RIGHTS

Except as expressly limited by a specific provision of this Agreement, Contractors retain full and exclusive authority for the management of their operations including, but not limited to, the right to: direct the work force, including determination as to the number of employees to be hired and the qualifications therefore; the promotion, transfer, layoff of its employees; require compliance with the directives of the Department including standard restrictions related to security and access to the site that are equally applicable to Department employees, guests, or vendors; or the discipline or discharge for just cause of its employees; assign and schedule work; promulgate reasonable Project Work rules that are not inconsistent with this Agreement or rules common in the industry and are reasonably related to the nature of work; and, the requirement, timing and number of employees to be utilized for overtime work. No rules, customs, or practices, which limit or restrict productivity or efficiency of the individual shall be permitted or observed.

SECTION 2. MATERIALS, METHODS & EQUIPMENT

There shall be no limitation or restriction upon the Contractors' choice of materials, techniques, methods, technology or design, or, regardless of source or location, upon the use and installation of equipment, machinery, package units, pre-cast, pre-fabricated, pre-finished, or pre-assembled materials or products, tools, or other labor-saving devices. Contractors may, without restriction, install or use materials, supplies or equipment regardless of their source; provided, however, that where there is a Schedule "A" that includes a lawful union standards and practices clauses, then such clause as set forth in Schedule A Agreements will be complied with. The on-site installation or application of such items shall be performed by the craft having jurisdiction over such work; provided, however, it is recognized that other personnel having special qualifications may participate, in a supervisory capacity, in the installation, checkoff or testing of specialized or unusual equipment or facilities as designated by the Contractor. There shall be no restrictions as to work which is performed off site for Program Work.

ARTICLE 7- WORK STOPPAGES AND LOCKOUTS

SECTION 1. NO STRIKES-NO LOCK OUT

There shall be no strikes, sympathy strikes, picketing, work stoppages, slowdowns, hand billing, demonstrations or other disruptive activity on Project Work for any reason by any Union or employee against the Prime Contractor and Contractors or other employers. This Agreement, including the provisions of this Article, shall apply to all Project Work and any work that is not covered by this Agreement is not considered Project Work and shall not be covered by this provision of the Agreement. There shall be no lockout at this Project Work site by the Prime Contractor or any Contractor or other employers. Contractors and Affiliated Unions shall use their best efforts to ensure compliance with this Section and to ensure uninterrupted construction and the free flow of traffic in the Project area for the duration of this Agreement. The Unions reserve all of their collective bargaining rights with respect to the negotiation of successor collective bargaining agreements.

SECTION 2. DISCHARGE FOR VIOLATION

The Prime Contractor may discharge any employee violating Section 1, above, and any such employee will not be eligible thereafter for referral under this Agreement for a period of 100 days.

SECTION 3. NOTIFICATION

If the Prime Contractor contends that any Union has violated this Article, it will notify the Local Union involved advising of such fact, with copies of the notification to the Council. The Local Union shall instruct and order, the Council shall request, and each shall otherwise use their best efforts to cause the employees, (and where necessary the Council shall use its best efforts to cause the Local Union), to immediately cease and desist from any violation of this Article. If the Council complies with these obligations it shall not be liable for the unauthorized acts of a Local Union or its members. Similarly, a Local Union and its members will not be liable for any unauthorized acts of the Council. Failure of a Contractor or the Prime Contractor to give any notification set forth in this Article shall not excuse any violation of Section 1 of this Article.

SECTION 4. EXPEDITED ARBITRATION

The Prime Contractor, and any Contractor or Union alleging a violation of Section 1 of this Article may utilize the expedited procedure set forth below (in lieu of, or in addition to, any actions at law or equity) that may be brought.

- A. A party invoking this procedure shall notify J.J. Pierson or Richard Adelman, who shall alternate (beginning with Arbitrator J.J. Pierson) as Arbitrator under this expedited arbitration procedure. If the Arbitrator next on the list is not available to hear the matter within 24 hours of notice, the next Arbitrator on the list shall be called. Copies of such notification will be simultaneously sent to the alleged violator and Council.
- B. The Arbitrator shall thereupon, after notice as to time and place to the Contractor, the Local Union involved, the Council and the Prime Contractor, hold a hearing within 48 hours of receipt of the notice invoking the procedure if it is contended that the violation still exists. The hearing will not, however, be scheduled for less than 24 hours after the notice required by Section 3, above.

- C. All notices pursuant to this Article may be provided by email, hand delivery, or fax, confirmed by overnight delivery, to the Arbitrator, Contractor, Prime Contractor and Local Union involved. The hearing may be held on any day including Saturdays or Sundays. The hearing shall be completed in one session, which shall not exceed 8 hours duration (no more than 4 hours being allowed to either side to present their case, and conduct their cross examination) unless otherwise agreed. A failure of any Union or Contractor to attend the hearing shall not delay the hearing of evidence by those present or the issuance of an award by the Arbitrator.
- D. The sole issue at the hearing shall be whether a violation of Section 1, above, occurred. If a violation is found to have occurred, the Arbitrator shall issue a Cease and Desist Award restraining such violation and serve copies on the Contractor and Union involved. The Arbitrator shall have no authority to consider any matter in justification, explanation or mitigation of such violation or to award damages (any damages issue is reserved solely for court proceedings, if any). The Award shall be issued in writing within 3 hours after the close of the hearing, and may be issued without an Opinion. If any involved party desires an Opinion, one shall be issued within 15 calendar days, but its issuance shall not delay compliance with, or enforcement of, the Award.
- E. The Prime Contractor (or such other designee of the Prime Contractor) may participate in full in all proceedings under this Article.
- F. An Award issued under this procedure may be enforced by any court of competent jurisdiction upon the filing of this Agreement together with the Award. Notice of the filing of such enforcement proceedings shall be given to the Union or Contractor involved, and the Prime Contractor.
- G. Any rights created by statute or law governing arbitration proceedings which are inconsistent with the procedure set forth in this Article, or which interfere with compliance thereto, are hereby waived by the Contractors and Unions to whom they accrue.
- H. The fees and expenses of the Arbitrator shall be equally divided between the involved Contractor and Union.

SECTION 5. ARBITRATION OF DISCHARGES FOR VIOLATION

Procedures contained in Article 9 shall not be applicable to any alleged violation of this Article, with the single exception that an employee discharged for violation

of Section 1, above, may have recourse to the procedures of Article 9 to determine only if the employee did, in fact, violate the provisions of Section 1 of this Article; but not for the purpose of modifying the discipline imposed where a violation is found to have occurred.

ARTICLE 8 - LABOR MANAGEMENT COMMITTEE

SECTION 1. SUBJECTS

The Program Labor Management Committee will meet on a regular basis to:
1) promote harmonious relations among the Contractors and Unions; 2) enhance safety
awareness, cost effectiveness and productivity of construction operations; 3) protect the
public interests; and 4) discuss matters relating to staffing and scheduling with safety and
productivity as considerations.

SECTION 2. COMPOSITION

The Committee shall be jointly chaired by a designee of the Prime Contractor and the President of the Council. It may include representatives of the Local Unions and Contractors involved in the issues being discussed. The Committee may conduct business through mutually agreed upon sub-committees.

ARTICLE 9- GRIEVANCE & ARBITRATION PROCEDURE

SECTION 1. PROCEDURE FOR RESOLUTION OF GRIEVANCES

Any question, dispute or claim arising out of, or involving the interpretation or application of this Agreement (other than jurisdictional disputes or alleged violations of Article 7, Section 1) shall be considered a grievance and shall be resolved pursuant to the exclusive procedure of the steps described below, provided, in all cases, that the question, dispute or claim arose during the term of this Agreement.

Step 1:

(a) When any employee covered by this Agreement feels aggrieved by a claimed violation of this Agreement, the employee shall, through the Local Union business representative or job steward give notice of the claimed violation to the work site representative of the involved Contractor and the Prime Contractor. To be timely, such notice of the grievance must be given within 7 calendar days after the act, occurrence or event giving

rise to the grievance or as soon thereafter as practical. The business representative of the Local Union or the job steward and the work site representative of the involved Contractor shall meet and endeavor to adjust the matter within 7 calendar days after timely notice has been given or as soon thereafter as practical. If they fail to resolve the matter within the prescribed period, the grieving party, may, within 7 calendar days or as soon thereafter as practical, pursue Step 2 of the grievance procedure by serving the involved Contractor with written copies of the grievance setting forth a description of the claimed violation, the date on which the grievance occurred, and the provisions of the Agreement alleged to have been violated. Grievances and disputes settled at Step 1 are non-precedential except as to the specific Local Union, employee and Contractor directly involved unless the settlement is accepted in writing by The Design Builder (or designee) as creating a precedent.

(b) Should any signatory to this Agreement have a dispute (excepting jurisdictional disputes or alleged violations of Article 7, Section 1) with any other signatory to this Agreement and, if after conferring, a settlement is not reached within 7 calendar days, or as soon thereafter as practical, the dispute shall be reduced to writing and proceed to Step 2 in the same manner as outlined in subparagraph (a) for the adjustment of employee grievances.

Step 2:

The Business Manager or designee of the involved Local Union, together with representatives of the involved Contractor, Council and the Prime Contractor (or designee), shall meet in Step 2 within 7 calendar days of service of the written grievance to arrive at a satisfactory settlement or as soon thereafter as practical.

Step 3:

(a) If the grievance shall have been submitted but not resolved in Step 2, any of the participating Step 2 entities may, within 21 calendar days after the initial Step 2 meeting, or as soon thereafter as practical, submit the grievance in writing (copies to other participants, including the Prime Contractor or designee) to J.J. Pierson or Richard Adelman, who shall act, alternately (beginning with Arbitrator J.J. Pierson), as the Arbitrator under this procedure. The Labor Arbitration Rules of the American Arbitration Association shall govern the conduct of the arbitration hearing, at which all Step 2 participants shall be parties. The

decision of the Arbitrator shall be final and binding on the involved Contractor, Local Union and employees and the fees and expenses of such arbitrations shall be borne equally by the involved Contractor and Local Union.

(b) Failure of the grieving party to adhere to the time limits set forth in this Article shall render the grievance null and void. These time limits may be extended only by written consent of the Prime Contractor (or designee), involved Contractor and involved Local Union at the particular step where the extension is agreed upon. The Arbitrator shall have authority to make decisions only on the issues presented to him and shall not have the authority to change, add to, delete or modify any provision of this Agreement.

SECTION 2. LIMITATION AS TO RETROACTIVITY

No arbitration decision or award may provide retroactivity of any kind exceeding 60 calendar days prior to the date of service of the written grievance on the Prime Contractor and the involved Contractor or Local Union.

SECTION 3. PARTICIPATION BY DESIGN BUILD CONTRACTOR

The Prime Contractor shall be notified by the involved Contractor of all actions at Steps 2 and 3 and, at its election, may participate in full in all proceedings at these Steps, including Step 3 arbitration.

ARTICLE 10 - JURISDICTIONAL DISPUTES

SECTION 1. NO DISRUPTIONS

There will be no strikes, sympathy strikes, work stoppages, slowdowns, picketing or other disruptive activity of any kind arising out of any jurisdictional dispute. Pending the resolution of the dispute, the work shall continue uninterrupted and as assigned by the Contractor. No jurisdictional dispute shall excuse a violation of Article 7.

SECTION 2. ASSIGNMENT

All Project Work assignments shall be made by the Contractor to unions affiliated with the BCTC/BCTD consistent with the New York Plan for the Settlement of Jurisdictional Disputes ("New York Plan") and its Greenbook decisions, if any. Where there are no applicable Greenbook decisions, assignments shall be made in accordance with the

provisions of the New York Plan and local industry practice.

SECTION 3. NO INTERFERENCE WITH WORK

There shall be no interference or interruption of any kind with the Project Work while any jurisdictional dispute is being resolved. The work shall proceed as assigned by the Contractor until finally resolved under the applicable procedure of this Article. The award shall be confirmed in writing to the involved parties. There shall be no strike, work stoppage or interruption in protest of any such award.

ARTICLE 11- WAGES AND BENEFITS

SECTION 1. CLASSIFICATION AND BASE HOURLY RATE

All employees covered by this Agreement shall be classified in accordance with the work performed and paid the hourly wage and fringe benefit rates applicable for those classifications as required by the applicable prevailing wage laws.

SECTION 2. EMPLOYEE BENEFITS

- A. The Contractors agree to pay on a timely basis contributions on behalf of all employees covered by this Agreement to those established jointly trusteed employee benefit funds designated in Schedule A (in the appropriate Schedule A amounts), provided that such benefits are required to be paid on public works under any applicable prevailing wage law. Bona fide jointly trusteed fringe benefit plans established or negotiated through collective bargaining during the life of this Agreement may be added if similarly required under applicable prevailing wage law. Contractors, not otherwise contractually bound to do so, shall not be required to contribute to benefits, trusts or plans of any kind which are not required by the prevailing wage law provided, however, that this provision does not relieve Contractors signatory to local collective bargaining agreement with any affiliated union from complying with the fringe benefit requirements for all funds contained in the CBA.
- B. The Contractors agree to be bound by the written terms of the legally established jointly trusteed Trust Agreements specifying the detailed basis on which payments are to be paid into, and benefits paid out of, such Trust Funds but only with regard to Project Work done under this Agreement and only for those employees to whom this Agreement requires such benefit payments.

- In consideration of the unions' waiver of their rights to withhold labor C. from a contractor or subcontractor delinquent in the payment of fringe benefits contributions ("Delinquent Contractor"); to the extent permitted by law the Prime Contractor agrees that where any such union and/or fringe benefit fund shall notify the Prime Contractor and the Delinquent Contractor in writing with back-up documentation that the Delinquent Contractor has failed to make fringe benefit contributions to it as provided herein and the Delinquent Contractor shall fail, within ten (10) calendar days after receipt of such notice, to furnish either proof of such payment or notice that the amount claimed by the union and/or fringe benefit fund is in dispute, the Prime Contractor shall withhold from amounts then or thereafter becoming due and payable to the Delinquent Contractor an amount equal to that portion of such payment due to the Delinquent Contractor that relates solely to the work performed by the Delinquent Contractor which the union or fringe benefit fund claims to be due it, and shall remit the amount when and so withheld to the fringe benefit fund and deduct such payment from the amounts then otherwise due and payable to the Delinquent Contractor, which payment shall, as between the Prime Contractor and the Delinquent Contractor, be deemed a payment by the Prime Contractor to the Delinquent Contractor; The union or its employee benefit funds shall include in its notification of delinquent payment of fringe benefits only such amount it asserts the Delinquent Contractor failed to pay on Project Work and the union or its employee benefit funds may not include in such notification any amount such Delinquent Contractor may have failed to pay on any other Department or Non-Department project. In the event that a union and/or its fund notifies the Prime Contractor that a contractor is delinquent in fringe benefit contributions pursuant to this section, including where the Delinquent Contractor disputes that it owes the union or fringe benefit fund the amount claimed to be owned to the union or fringe benefit fund, then such dispute shall be considered a claim within the meaning of section 139-f (2) of the State Finance Law. Pursuant to section 139-f(2). The Design Builder is required to withhold from payment to the Delinquent Contractor the amount of the claim until the claim has been suitably discharged.
- D. Payment to a fringe benefit fund under this provision shall not relieve the Prime Contractor or Delinquent Contractor from responsibility for the work covered by the payment. Nothing contained herein shall create any obligation on the part of the Department to pay any union or fringe benefit fund, nor shall anything provided herein serve

to create any relationship in contract or otherwise, implied or expressed, between the union/fund and/or fringe benefit and the Department.

ARTICLE 12- HOURS OF WORK, PREMIUM PAYMENTS, SHIFTS AND HOLIDAYS

SECTION 1. WORK WEEK AND WORK DAY

- A. The standard work week shall be Monday through Friday. The standard work day shall be 8 hours per day, plus 1/2 hour unpaid lunch period.
- B. In accordance with Project needs, there shall be flexible start times with advance notice from Contractor to the Union. The Day Shift shall commence between the hours of 6:00 a.m. and 9:00 a.m. and shall end between the hours of 2:30 p.m. and 5:30 p.m., for an 8 hour day. The Evening Shift shall commence between the hours of 3:00 p.m. and 6:00 p.m., unless different times are necessitated by the Prime Contractor's phasing plans. The Night Shift shall commence between the hours of 11:00 p.m. and 2:00 a.m., unless different times are necessitated by the Design Build Contractor's phasing plans. Subject to the foregoing, starting and quitting times shall occur at the staging areas designated by the Contractor.
- C. Scheduling Monday through Friday is the standard work week; 8 hours of work plus ¹/₂ hour unpaid lunch.
- D. Notice Contractors shall provide not less than 5 days prior notice to the Local Union involved as to the work week and work hour schedules to be worked or such lesser notice as may be mutually agreed upon.

SECTION 2. OVERTIME

Overtime shall be paid for any work performed Monday through Friday over eight (8) hours in a day. All work, including all overtime work performed on Saturday, Sunday and Holidays will be paid pursuant to the applicable Schedule "A" collective bargaining agreements. There shall be no stacking or pyramiding of overtime pay under any circumstances. There will be no restriction upon the Contractor's scheduling of overtime or the nondiscriminatory designation of employees who shall work, including the use of employees other than those who have worked the regular or scheduled work week, at straight time rates. The Contractor shall have the right to schedule work so as to minimize

overtime or schedule overtime as to some, but not all, of the crafts and whether or not of a continuous nature.

SECTION 3. SHIFTS

A. Flexible Schedules - Scheduling of shift work, Monday through Friday, shall be within the discretion of the Contractor in order to meet Project Work schedules and existing Project Work conditions. It is not necessary to work a day shift in order to schedule a second or third shift, or a second shift in order to schedule a third shift, or to schedule all of the crafts when only certain crafts or employees are needed. Shifts must have prior approval of The Design Builder, and must be scheduled with not less than five work days notice to the Local Union or such lesser notice as may be mutually agreed upon.

B. Second and/or Third Shifts, Monday through Friday — For shift work performed Monday through Friday, the second shift shall start between 3 p.m. and 6 p.m. and the third shift shall start between 11 p.m. and 2 a.m., subject to different times necessitated by The Design Builder phasing plans with notice to the local unions. There shall be no reduction in shift hour work. All shift hour work shall be paid in accordance with the Schedule "A" collective bargaining agreements. All weekend work, including weekend shift work, shall be paid in accordance with the Schedule "A" collective bargaining agreements.

C. Flexible Starting Times - Shift starting times will be adjusted by the Contractor as necessary to fulfill Project Work requirements subject to the notice requirements of paragraph A.

SECTION 4. HOLIDAYS

A. Schedule - There shall be nine (9) recognized holidays on the Project:

New Year's Day Labor Day

Martin Luther King Day Veterans' Day

Presidents' Day Thanksgiving Day

Memorial Day Christmas Day

Independence Day

All said holidays shall be observed on the date designated by New York State. It is agreed that Christmas Eve and New Year's Eve shall be scheduled and paid pursuant to the Schedule "A" Agreements.

- B. Payment Regular holiday pay, if any, for work performed on such a recognized holiday shall be in accordance with the applicable Schedule "A" collective bargaining agreement.
- C. Exclusivity No holidays other than those listed in Section 4(A) above shall be recognized or observed.

SECTION 5. REPORTING PAY

- A. Employees who report to the work location pursuant to their regular schedule and who are not provided with work shall be paid two hours reporting pay at straight time rates. An employee whose work is terminated early by a Contractor due to severe weather, power failure, fire or natural disaster or for similar circumstances beyond the Contractor's control, shall receive pay only for such time as is actually worked. In other instances in which an employee's work is terminated early (unless provided otherwise elsewhere in this Agreement), the employee shall be paid for his full shift.
- B. When an employee, who has completed his/her scheduled shift and left the Project Work site, is "called out" to perform special work of a casual, incidental or irregular nature, the employee shall receive overtime pay at the rate of time and one-half of the employee's straight time rate for hours actually worked.
- C. When an employee leaves the job or work location of his/her own volition or is discharged for cause or is not working as a result of the Contractor's invocation of Section 7 below, he/she shall be paid only for the actual time worked.
- D. Except as specifically set forth in this Article there shall be no premiums, bonuses, hazardous duty, high time or other special premium payments or reduction in shift hours of any kind.
- E. There shall be no pay for time not actually worked except as specifically set forth in this Article and except where an applicable Schedule "A" collective bargaining agreement requires a full weeks' pay for forepersons.

SECTION 6. PAYMENT OF WAGES

Termination- Employees who are laid off or discharged for cause shall be paid in full for that which is due them at the time of termination. The Contractor shall also provide the employee with a written statement setting forth the date of lay off or discharge.

SECTION 7. EMERGENCY WORK SUSPENSION

In the event of a Storm Warning by the National Weather Service, weather conditions that, in the discretion of the Design Builder, pose a significant risk of harm to the project, or in the event that public official, including the President of the United States, the Governor of the State of New York, or the Mayor of the City of New York, or any other elected officials declare a state of emergency, or declare a project shut down by a government agency, Contractors shall have sole discretion as to manning the job as the contractor sees fit.

SECTION 8. INJURY/DISABILITY

An employee, who, after commencing work, suffers a work-related injury or disability while performing work duties, shall receive no less than 8 hours wages for that day. Further, the employee shall be rehired at such time as able to return to duties provided there is still Project Work available for which the employee is qualified and able to perform.

SECTION 9. TIME KEEPING

A Contractor may utilize brassing or other systems to check employees in and out (not for timekeeping purposes). Each employee must check in and out. The Contractor will provide adequate facilities for checking in and out in an expeditious manner.

SECTION 10. MEAL PERIOD

A Contractor shall schedule an unpaid period of not more than 1/2 hour duration between the 3rd and 5th hour of the scheduled shift. A Contractor may, for efficiency of operation, establish a schedule which coordinates the meal periods of two or more crafts or which provides for staggered lunch periods within a craft or trade. If an employee is required to work through the meal period, the employee shall be compensated in a manner established in the applicable Schedule "A" collective bargaining agreement.

SECTION 11. BREAK PERIODS

There will be no non-working time established during working hours, provided however, that individual coffee containers will be permitted at the employee's work location.

ARTICLE 13 – APPRENTICES

SECTION 1. RATIOS

Recognizing the need to maintain continuing supportive programs designed to develop adequate numbers of competent workers in the construction industry and to provide craft entry opportunities for minorities, women and economically disadvantaged non-minority males, Contractors will employ apprentices in their respective crafts to perform such work as is within their capabilities and which is customarily performed by the craft in which they are indentured. Contractors may utilize apprentices in the maximum ratio permitted by the New York State Department of Labor. Apprentices and such other classifications as are appropriate shall be employed in a manner consistent with the provisions of the appropriate Schedule "A" collective bargaining agreement. The parties encourage, as an appropriate source of apprentice recruitment consistent with the rules and operations of the affiliated unions' apprentice-programs, the use of the Edward J. Malloy Initiative for Construction Skills, Non-Traditional Employment for Women, Helmets to Hardhats, and Pathways to Apprenticeship.

ARTICLE 14-SAFETY PROTECTION OF PERSON AND PROPERTY

SECTION 1. SAFETY REQUIREMENTS

Each Contractor will ensure that applicable OSHA and safety requirements are at all times maintained on the Project Work site and the employees and Unions agree to cooperate fully with these efforts to the extent consistent with their rights and obligations under the law. Employees will cooperate with employer safety policies and will perform their work at all times in a safe manner and protect themselves and the property of the Contractor and Prime Contractor from injury or harm, to the extent consistent with their rights and obligations under the law. Failure to do so will be grounds for discipline, including discharge.

SECTION 2. CONTRACTOR RULES

Employees covered by this Agreement shall at all times be bound by the reasonable safety, security, and visitor rules as established by the Contractors and the Prime Contractor for this Project Work. Such rules will be published and posted in conspicuous places throughout the Project Work sites. Any site security and access policies established by The Prime Contractor intended for specific application to the construction workforce for Project Work and that are not established pursuant to a Prime Contractor directive shall be implemented only after notice to the BCTC and its affiliates and an opportunity for negotiation and resolution by the Labor Management Committee.

SECTION 3. INSPECTIONS

The Contractors and Prime Contractor retain the right to inspect incoming shipments of equipment, apparatus, machinery, and construction materials of every kind; provided such inspections will not permit personal searches or search of personal property of employees covered by this Agreement.

ARTICLE 15 - TEMPORARY SERVICES

System coverage on temporary services shall only be required on the specific request of the Prime Contractor and when used shall be assigned to the appropriate trade with jurisdiction. Temporary system coverage may be provided by the Contractor's employees already working under this Agreement during their regular work hours, the Prime Contractor may determine the need for temporary system coverage requirements during non-work hours. There shall be no stacking of trades on temporary services. In the event temporary services are claimed by multiple trades, the matter shall be resolved through the New York Plan for the Settlement of Jurisdictional Disputes.

ARTICLE 16 - NO DISCRIMINATION

SECTION 1. COOPERATIVE EFFORTS

The Contractors and Unions agree that they will not discriminate against any employee or applicant for employment because of creed, race, color, religion, sex, sexual orientation, national origin, marital status, citizenship status, disability, age or any other status

provided by law, in any manner prohibited by law or regulation.

SECTION 2. LANGUAGE OF AGREEMENT

The use of the masculine or feminine gender in this Agreement shall be construed as including both genders.

ARTICLE 17- GENERAL TERMS

SECTION 1. PROJECT RULES

A. The Prime Contractor and the Contractors shall establish such reasonable Project Work rules that are not inconsistent with this Agreement or rules common in the industry and are reasonably related to the nature of work. These rules will be explained at the pre-job conference and posted at the Project Work sites and may be amended thereafter as necessary. Notice of amendments will be provided to the appropriate Local Union. Failure of an employee to observe these rules and regulations shall be grounds for discipline, including discharge. The fact that no order was posted prohibiting a certain type of misconduct shall not be a defense to an employee disciplined or discharged for such misconduct when the action taken is for cause.

B.The parties adopt and incorporate the BCTC's Standards of Excellence as annexed hereto as Exhibit "B."

SECTION 2. TOOLS OF THE TRADE

The welding/cutting torch and chain fall are tools of the trade having jurisdiction over the work performed. Employees using these tools shall perform any of the work of the trade. There shall be no restrictions on the emergency use of any tools or equipment by any qualified employee or on the use of any tools or equipment for the performance of work within the employee's jurisdiction.

SECTION 3. SUPERVISION

Employees shall work under the supervision of the craft foreperson or general foreperson.

SECTION 4. TRAVEL ALLOWANCES

There shall be no payments for travel expenses, travel time, subsistence allowance or other such reimbursements or special pay except as expressly set forth in this Agreement.

SECTION 5. FULL WORK DAY

Employees shall be at their work area at the starting time established by the Contractor, provided they are provided access to the work area. The signatories reaffirm their policy of a fair day's work for a fair day's wage.

SECTION 6. COOPERATION AND WAIVER

The Prime Contractor, Contractors and the Unions will cooperate in seeking any NYS Department of Labor, or any other government, approvals that may be needed for implementation of any terms of this Agreement. In addition, the Council, on its own behalf and on behalf of its participating affiliated Local Unions and their individual members, intend the provisions of this Agreement to control to the greatest extent permitted by law, notwithstanding contrary provisions of any applicable prevailing wage, or other, law and intend this Agreement to constitute a waiver of any such prevailing wage, or other, law to the greatest extent permissible only for work within the scope of this Agreement, including specifically, but not limited to those provisions relating to shift, night, and similar differentials and premiums. This Agreement does not, however, constitute a waiver or modification of the prevailing wage schedules applicable to work not covered by this Agreement.

ARTICLE 18. SAVINGS AND SEPARABILITY

SECTION 1. THIS AGREEMENT

In the event that the application of any provision of this Agreement is enjoined, on either an interlocutory or permanent basis, or is otherwise determined to be in violation of law, or if such application may cause the loss of Program funding or any New York State Labor Law exemption for all or any part of the Project Work, the provision or provisions involved (and/or its application to particular Project Work, as necessary) shall be rendered, temporarily or permanently, null and void, but where practicable the remainder of

the Agreement shall remain in full force and effect to the extent allowed by law (and to the extent no funding or exemption is lost), unless the part or parts so found to be in violation of law or to cause such loss are wholly inseparable from the remaining portions of the Agreement and/or are material to the purposes of the Agreement. In the event a court of competent jurisdiction finds any portion of the Agreement to trigger the foregoing, the parties will immediately enter into negotiations concerning the substance affected by such decision for the purpose of achieving conformity with the court determination and the intent of the parties hereto for contracts to be let in the future.

SECTION 2. THE BID SPECIFICATIONS

In the event that the Prime Contractor's contracts or specifications, or other action, requiring that a successful bidder (and subcontractor) become signatory to this Agreement is enjoined, on either an interlocutory or permanent basis, or is otherwise determined to be in violation of law, or may cause the loss of Program funding or any New York State Labor Law exemption for all or any part of the Project Work, such requirement (and/or its application to particular Project Work, as necessary) shall be rendered, temporarily or permanently, null and void, but where practicable the Agreement shall remain in full force and effect to the extent allowed by law and to the extent no funding or exemption is lost). In such event, the Agreement shall remain in effect for contracts already bid and awarded or in construction only where the Prime Contractor and Contractor voluntarily accept the Agreement. The parties will enter into negotiations as to modifications to the Agreement to reflect the court or other action taken and the intent of the parties for contracts to be let in the future.

SECTION 3. NON-LIABILITY

In the event of an occurrence referenced in Section 1 or Section 2 of this Article, neither the Prime Contractor, any Contractor, nor any Union shall be liable, directly or indirectly, for any action taken, or not taken, to comply with any court order or injunction, other determination, or in order to maintain funding or a New York State Labor Law exemption for Project Work. Bid specifications will be issued in conformance with court orders then in effect and no retroactive payments or other action will be required if the original court determination is ultimately reversed.

SECTION 4. NON-WAIVER

Nothing in this Article shall be construed as waiving the prohibitions of Article 7 as to signatory Contractors and signatory Unions.

ARTICLE 19 - FUTURE CHANGES IN SCHEDULE "A" AREA CONTRACTS

SECTION 1. CHANGES TO AREA CONTRACTS

- A. Schedule "A" collective bargaining agreements to this Agreement shall continue in full force and effect until the Contractor and/or Union parties to the Area Collective Bargaining Agreements which are the basis for Schedule "A" collective bargaining agreement notify the Prime Contractor of the hourly rate changes agreed to in that Area Collective Bargaining which are applicable to work covered by this Agreement and their effective dates.
- B. It is agreed that any provisions negotiated into Schedule "A" collective bargaining agreements will not apply to work under this Agreement if such provisions are less favorable to those uniformly required of contractors for construction work normally covered by those agreements; nor shall any provision be recognized or applied on Project Work if it may be construed to apply exclusively, or predominantly, to work covered by this Agreement.
- C. Any disagreement between signatories to this Agreement over the incorporation into Schedule "A" collective bargaining agreement of provisions agreed upon in the renegotiation of Area Collective Bargaining Agreements shall be resolved in accordance with the procedure set forth in Article 9 of this Agreement.

SECTION 2. LABOR DISPUTES DURING AREA CONTRACT NEGOTIATIONS

The Unions agree that there will be no strikes, work stoppages, sympathy actions, picketing, slowdowns or other disruptive activity or other violations of Article 7 affecting the Project Work by any Local Union involved in the renegotiation of Area Local Collective Bargaining Agreements nor shall there be any lock-out on such Project Work affecting a Local Union during the course of such renegotiations. The Unions reserve all of their collective bargaining rights with respect to the negotiation of successor collective bargaining agreements.

ARTICLE 20 - WORKERS' COMPENSATION ADR

SECTION 1.

An ADR program may be negotiated and participation in the ADR Program will be optional by trade.

ARTICLE 21- HELMETS TO HARDHATS

SECTION 1.

The Contractors and the Unions recognize a desire to facilitate the entry into the building and construction trades of veterans who are interested in careers in the building and construction industry. The Contractors and Unions agree to utilize the services of "NY Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the parties.

SECTION 2.

The Unions and Contractors agree to coordinate with NY Helmets to Hardhats to create and maintain an integrated database of veterans interested in working on this Project and of apprenticeship and employment opportunities for this Project. To the extent permitted by law, the Unions will give credit to such veterans for bona fide, provable past experience.

SIGNATURE PAGES

FOR UNIONS ONLY:

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO:

Steve Ludwigson, Business Manager - International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers, AFL-

CIO,

Local Lodge No. 5

FROM:

Gary LaBarbera, President - Building and Construction Trades Council of

Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

Pursuant to the Executive Board and BCTC approval of this PLA, please execute below, which shall constitute your agreement with the PLA and make the PLA valid, binding and enforceable.

Acknowledged and agreed to by:

STEVEN LUDWIGSON

Print name

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO:

Jack Argila, Business Manager - Bricklayers and Allied Craftworkers,

Local Union No. 1

FROM:

Gary LaBarbera, President - Building and Construction Trades Council of

Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

Pursuant to the Executive Board and BCTC approval of this PLA, please execute below, which shall constitute your agreement with the PLA and make the PLA valid, binding and enforceable.

Acknowledged and agreed to by:

Signature

Signature

JACK ARGILIT

Print name

President

Title and I

Execution Copy 3.1.22

34

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

Joseph D'Amato, Business Manager – Building Concrete & Excavating Laborers, Local Union No. 731
 FROM: Gary LaBarbera, President – Building and Construction Trades Council of Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

Pursuant to the Executive Board and BCTC approval of this PLA, please execute below, which shall constitute your agreement with the PLA and make the PLA valid, binding and enforceable.

Acknowledged and agreed to by:

Signature 3/3/2002

Date

JOSEPH-WAMAIO

B-M- LECAL 731

Title and Local

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO: Joseph Geiger, Executive Secretary Treasurer - N.Y.C. and Vicinity District

Council of Carpenters

FROM: Gary LaBarbera, President - Building and Construction Trades Council of

Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

Pursuant to the Executive Board and BCTC approval of this PLA, please execute below, which shall constitute your agreement with the PLA and make the PLA valid, binding and enforceable.

Acknowledged and agreed to by:

Jos oh C

Print name

Executive Secretary - Treasurer

Title and Local

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

	PROJECT LA	BOR AGREEMENT
TO:	Gino Castignoli, Business M	Manager – Cement Masons Local Union No. 780
FROM:	Gary LaBarbera, President – Building and Construction Trades Council of Greater New York and Vicinity	
has approv Trades Dep has also be	yed the Project Labor Agreement partment of the AFL-CIO has appear executed by the Construction	Construction Trades Council of Greater New York at enclosed herewith. Additionally, the Building oproved the same. This Project Labor Agreement Manager/General Contractor/Owner-Developer.
which shal enforceable	• •	h the PLA and make the PLA valid, binding and
Acknowled	dged and agreed to by:	
Signature	instigati	<u>03.04.22</u> Date
Print name	A now A MAX	
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BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO:

Angelo Angelone, Business Manager - Concrete Workers District Council

No. 16

FROM:

Gary LaBarbera, President - Building and Construction Trades Council of

Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

Pursuant to the Executive Board and BCTC approval of this PLA, please execute below, which shall constitute your agreement with the PLA and make the PLA valid, binding and enforceable.

of & Business Manager BC 16

Acknowledged and agreed to by:

Signature

Print Name

Citle and Local

03/07/2022

38

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO: Joseph D'Amato, Business Manager – Building Concrete & Excavating Laborers, Local Union No. 731
 FROM: Gary LaBarbera, President – Building and Construction Trades Council of Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

Pursuant to the Executive Board and BCTC approval of this PLA, please execute below, which shall constitute your agreement with the PLA and make the PLA valid, binding and enforceable.

Acknowledged and agreed to by:

Signature 3/3/2022

Date Date

B-M- LECAL 131

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO:	Pawel Gruchacz – Asbestos, Lead & Hazardous Waste, Laborers Local Union No. 78			
FROM:	Gary LaBarbera, President – Building and Construction Trades Council of Greater New York and Vicinity			
has approved Trades Depart	e Board of the Building and Construction Tra the Project Labor Agreement enclosed here tment of the AFL-CIO has approved the sam executed by the Construction Manager/Gene	ewith. Additionally, the Building e. This Project Labor Agreement		
Pursuant to the Executive Board and BCTC approval of this PLA, please execute below, which shall constitute your agreement with the PLA and make the PLA valid, binding and enforceable.				
Acknowledge	d and agreed to by:			
Car	el Juneance			
Signature		03/18/2022 Date		
PAWEL GRU Print name	CHACZ	_		
BUSINESS M	IANAGER, LOCAL 78	_		

Title and Local

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO: Mike Prohaska, Business Manager - Construction & General Building

Laborers Local Union No. 79

FROM: Gary LaBarbera, President – Building and Construction Trades Council of

Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

Pursuant to the Executive Board and BCTC approval of this PLA, please execute below, which shall constitute your agreement with the PLA and make the PLA valid, binding and enforceable.

Acknowledged and agreed to by:

1/1.1

Print name

Title and Local

3 /17 /2012 Date

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO:

William D. Hayes, Business Manager - Derrickmen and Riggers Local

Union No. 197

FROM:

Gary LaBarbera, President - Building and Construction Trades Council of

Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

Pursuant to the Executive Board and BCTC approval of this PLA, please execute below, which shall constitute your agreement with the PLA and make the PLA valid, binding and enforceable.

Acknowledged and agreed to by:

Print name

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

	11(01201	
TO:	Christopher Erikson, Business Electrical Workers, Local Unio	s Manager – International Brotherhood of n No. 3
FROM:	Gary LaBarbera, President – I Greater New York and Vicinity	Building and Construction Trades Council of
has approv Trades Dep	ed the Project Labor Agreement en partment of the AFL-CIO has appro	struction Trades Council of Greater New York nclosed herewith. Additionally, the Building oved the same. This Project Labor Agreement anager/General Contractor/Owner-Developer.
Pursuant to which shall enforceable	l constitute your agreement with th	approval of this PLA, please execute below, as PLA and make the PLA valid, binding and
Acknowled	lged and agreed to by:	
Christop Signature	her Eikon	3/21/2022 Date
Christophe Print name		
Business M	Manager, Local 3 IBEW	

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO: Lenny Legotte, Business Manager – International Union of Elevator Constructors, Local Union No. 1

FROM: Gary LaBarbera, President - Building and Construction Trades Council of

Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

Pursuant to the Executive Board and BCTC approval of this PLA, please execute below, which shall constitute your agreement with the PLA and make the PLA valid, binding and enforceable.

Acknowledged and agreed to by:

ignature 03/30/22
Date

Leonard Legotte

Print name

President / Business Manager

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO:

John Jovic, Business Manager - Heat & Frost Insulators & Allied Workers,

Local Union No. 12

FROM:

Gary LaBarbera, President - Building and Construction Trades Council of

Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

Pursuant to the Executive Board and BCTC approval of this PLA, please execute below, which shall constitute your agreement with the PLA and make the PLA valid, binding and enforceable.

Acknowledged and agreed to by:

Signature

Print name

Title and Local

Date.

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO:	Jaime Soto, Business Manager – Heat & Frost Insulators & Allied Workers Local Union No. 12A		
FROM:	Gary LaBarbera, Pres Greater New York and		l Construction Trades Council of
has approve Trades Dep	ed the Project Labor Agrartment of the AFL-CIO	eement enclosed here has approved the sam	des Council of Greater New York with. Additionally, the Building e. This Project Labor Agreement ral Contractor/Owner-Developer.
	constitute your agreemen		this PLA, please execute below, make the PLA valid, binding and
Acknowled	ged and agreed to by:		
Signature		±0	Date
Print name			
Title and Lo	ocal		

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO:

Keith J. Loscalzo, Business Manager - Pavers & Road Builders, Laborers

Local Union No. 1010

FROM:

Gary LaBarbera, President - Building and Construction Trades Council of

Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

Pursuant to the Executive Board and BCTC approval of this PLA, please execute below. which shall constitute your agreement with the PLA and make the PLA valid, binding and enforceable.

Acknowledged and agreed to by:

Signature

Print name

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO:

James P. Mahoney, President - New York State Iron Workers District

Council

FROM:

Gary LaBarbera, President - Building and Construction Trades Council of

Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

Pursuant to the Executive Board and BCTC approval of this PLA, please execute below, which shall constitute your agreement with the PLA and make the PLA valid, binding and enforceable.

Acknowledged and agreed to by:

AISTRICT COUNCIL.

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

	TROJECT LABOR	AONLAMIANI
TO: 40	Robert Walsh, Business Manager	- Structural Iron Workers, Local Union No.
FROM:	Gary LaBarbera, President – Bu Greater New York and Vicinity	uilding and Construction Trades Council of
has approv	yed the Project Labor Agreement encountry of the AFL-CIO has approve	ruction Trades Council of Greater New York closed herewith. Additionally, the Building ed the same. This Project Labor Agreement lager/General Contractor/Owner-Developer.
	I constitute your agreement with the	oproval of this PLA, please execute below, PLA and make the PLA valid, binding and
Acknowled	dged and agreed to by:	
Robert	W. Walsh	3-28-2022
Signature		Date
ROBERT	W. Klasse	
Print name		
Bus. M.	len. Fin. See.	
Title and L		

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO:	Matthew Chartrand, Business Manager – Stru Union No. 361	ctural Iron Workers, Local
FROM:	Gary LaBarbera, President – Building and C Greater New York and Vicinity	Construction Trades Council of
has approved Trades Depart	e Board of the Building and Construction Trade the Project Labor Agreement enclosed herews ment of the AFL-CIO has approved the same. executed by the Construction Manager/General	ith. Additionally, the Building This Project Labor Agreement
Pursuant to the which shall conforceable.	ne Executive Board and BCTC approval of the onstitute your agreement with the PLA and ma	is PLA, please execute below, the the PLA valid, binding and
Acknowledge	d and agreed to by:	
Signature		Date
Print name		
Title and Loca	ıl	
thrut th	neir junsdiction*	

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO:	Robert Bonanza, Business Man	ager – Mason Tenders District Council		
FROM:		Gary LaBarbera, President – Building and Construction Trades Council of Greater New York and Vicinity		
has approv	yed the Project Labor Agreement er partment of the AFL-CIO has appro	struction Trades Council of Greater New York nclosed herewith. Additionally, the Building ved the same. This Project Labor Agreement anager/General Contractor/Owner-Developer.		
Pursuant to which shal enforceable	I constitute your agreement with th	approval of this PLA, please execute below, e PLA and make the PLA valid, binding and		
Acknowled	dged and agreed to by:			
Rolf Signature	B-7	<u>2/24/22</u> Date		
Robert Bo				
Business Title and L	Manager - MTDC of GNY & LI			

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

Michael Anderson, Business Manager - Metallic Lathers & Reinforcing Ironworkers, Local No. 46
 FROM: Gary LaBarbera, President - Building and Construction Trades Council of Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

Pursuant to the Executive Board and BCTC approval of this PLA, please execute below, which shall constitute your agreement with the PLA and make the PLA valid, binding and enforceable.

Michael Anderson

March 28, 2022

Date

Business Manager / Local 46

Acknowledged and agreed to by:

Title and Local

Print name

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO: Peter Myers, Business Manager – Ornamental Iron Workers, Local Union No. 580

FROM: Gary LaBarbera, President – Building and Construction Trades Council of Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

Pursuant to the Executive Board and BCTC approval of this PLA, please execute below, which shall constitute your agreement with the PLA and make the PLA valid, binding and enforceable.

Acknowledged and agreed to by:

Signature

Print name

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO: Joseph Azzopardi, Business Manager – Glaziers No. 1087, District Council 9

FROM: Gary LaBarbera, President – Building and Construction Trades Council of Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

Pursuant to the Executive Board and BCTC approval of this PLA, please execute below, which shall constitute your agreement with the PLA and make the PLA valid, binding and enforceable.

Acknowledged and agreed to by:

Signature

Joseph Azzopardi

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO:

Joseph Azzopardi, Business Manager - Painters, District Council No. 9

FROM:

Gary LaBarbera, President - Building and Construction Trades Council of

Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

Pursuant to the Executive Board and BCTC approval of this PLA, please execute below, which shall constitute your agreement with the PLA and make the PLA valid, binding and enforceable.

Acknowledged and agreed to by:

Signature

Joseph Azzopardi

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO:

Joseph Azzopardi, Business Manager - Metal Polishers, Local Union No. 8A-

28A; District Council No. 9

FROM:

Gary LaBarbera, President - Building and Construction Trades Council of

Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

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Acknowledged and agreed to by:

Signature

Joseph Azzopardi

Title and I ocal

55

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO:

Joseph Azzopardi, Business Manager - Drywall Tapers Local Union No 1974,

District Council 9

FROM:

Gary LaBarbera, President - Building and Construction Trades Council of

Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

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Acknowledged and agreed to by:

Signature

seph Azzopano

Print name

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO:

Joseph Azzopardi, Business Manager - Bridge & Structural Steel Painters,

Local Union No. 806, District Council 9

FROM:

Gary LaBarbera, President - Building and Construction Trades Council of

Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

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Acknowledged and agreed to by:

Signature

Print name

Title and Local

14 2022 Date

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO: Dale Alleyne, Business Manager - Operative Plasterers Local Union No. 262

FROM: Gary LaBarbera, President - Building and Construction Trades Council of

Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

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Acknowledged and agreed to by:

Signature

Print name

Title and Local

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO: Michael Apuzzo, Business Manager – UA Plumbers Local Union No. 1

FROM: Gary LaBarbera, President - Building and Construction Trades Council of

Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

Pursuant to the Executive Board and BCTC approval of this PLA, please execute below, which shall constitute your agreement with the PLA and make the PLA valid, binding and enforceable.

Acknowledged and agreed to by:

Signature

10116101171

UA Plumbers LOCAL "I BUSINES MANAGER.

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO:

Nick Siciliano, Business Manager - Roofers & Waterproofers, Local Union

No. 8

FROM:

Gary LaBarbera, President - Building and Construction Trades Council of

Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

Pursuant to the Executive Board and BCTC approval of this PLA, please execute below, which shall constitute your agreement with the PLA and make the PLA valid, binding and enforceable.

Acknowledged and agreed to by:

Signature

Drint nama

Title and Local

Date

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO:

Eric Meslin, President/Business Manager - Sheet Metal Workers, Local

Union No. 28

FROM:

Gary LaBarbera, President - Building and Construction Trades Council of

Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

Pursuant to the Executive Board and BCTC approval of this PLA, please execute below, which shall constitute your agreement with the PLA and make the PLA valid, binding and enforceable.

Acknowledged and agreed to by:

Signature

Print name

Title and Local

7 22 Date

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

	PROJECT LABOR AGREEN	IEN I
TO:	Dante Dano, President/Business Manager – Sheet Metal Workers, Local Union No. 137	
FROM:	Gary LaBarbera, President – Building and Construction Trades Council of Greater New York and Vicinity	
has approv Trades Dep has also be	tive Board of the Building and Construction Traced the Project Labor Agreement enclosed here partment of the AFL-CIO has approved the same en executed by the Construction Manager/General of the Executive Board and BCTC approval of	ewith. Additionally, the Building ne. This Project Labor Agreement eral Contractor/Owner-Developer.
which shal enforceable	l constitute your agreement with the PLA and	make the PLA valid, binding and
Acknowled	dged and agreed to by:	
DON/ Signature	le Dano gr	03/04/2022 Date
Dante Dane Print name		
President/	Business Manager- SMART LOCAL 137	

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO:	Dan Mulligan, Business Mana	ger – UA Steamfitters, Local Union No. 638
FROM:	Gary LaBarbera, President – Greater New York and Vicinit	Building and Construction Trades Council of y
The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.		
		approval of this PLA, please execute below, he PLA and make the PLA valid, binding and
Acknowledge	ed and agreed to by	
Signature	hully	3/4/22- Date
Print name	iolligan	

Title and Local

Business Manager -

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO: Thomas Gesualdi, President - Teamsters, Local Union No. 282

FROM: Gary LaBarbera, President - Building and Construction Trades Council of

Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

Pursuant to the Executive Board and BCTC approval of this PLA, please execute below, which shall constitute your agreement with the PLA and make the PLA valid, binding and enforceable.

Acknowledged and agreed to by:

Signature

Title and Local

3 4 32 Date

68

BUILDING AND CONSTRUCTION TRADES COUNCIL OF GREATER NEW YORK AND VICINITY AFFILIATE EXECUTION PAGE FOR PROJECT LABOR AGREEMENT

TO:

William A. Hill, President - Tile, Marble & Terrazzo, B.A.C. Local Union

No. 7

FROM:

Gary LaBarbera, President - Building and Construction Trades Council of

Greater New York and Vicinity

The Executive Board of the Building and Construction Trades Council of Greater New York has approved the Project Labor Agreement enclosed herewith. Additionally, the Building Trades Department of the AFL-CIO has approved the same. This Project Labor Agreement has also been executed by the Construction Manager/General Contractor/Owner-Developer.

Pursuant to the Executive Board and BCTC approval of this PLA, please execute below, which shall constitute your agreement with the PLA and make the PLA valid, binding and enforceable.

Acknowledged and agreed to by:

Signature

Drint nama

litle and Local

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SCHEDULE "A" - CBAs

Union	Current Agreement w/
Architectural and Ornamental Iron Workers Local Union 580, AFL-CIO	Allied Building Metal Industries, Inc.
Building, Concrete, Excavating & Common Laborers Local 731	Independent
Building, Concrete, Excavating & Common Laborers Local 731	Members of the General Contractors Association of New York, Inc.
Bricklayers Local 1 of the International Union of Bricklayers and Allied Craftworkers	Independent
District Council No. 9, I.U.P.A.T Glaziers Local 1087	Window and Plate Glass Dealers Association
Drywall Tapers and Painters Local 1974, affiliated with International Union of Painters & Allied Trades and Drywall Taping Contractor's Association & Association of Wall-Ceiling & Carpentry Industries NY, Inc.	Independent
Enterprise Association of Steamfitters and Apprentices Local 638	Mechanical Contractors Association of NY, Inc.
Enterprise Association of Steamfitters and Apprentices Local 638	Independent
Elevator Constructors Local 1 of NY and NJ	ThyssenKrupp Elevator Corporation
Elevator Constructors Local 1 of NY and NJ	Independent
Highway Road and Street Laborers Local Union 1010 of the District Council of Pavers and Road Builders of the Laborers' International Union of North America AFL-CIO	Independent
Highway Road and Street Laborers Local Union 1010 of the District Council of Pavers and Road Builders of the Laborers' International Union of North America AFL-CIO	Member of the General Contractors Association of New York, Inc.
International Association of Heat and Frost Insulators and Allied Workers Local No. 12 of New York City	Independent

International Association of Heat and Frost Insulators and Allied Workers Local No. 12 of New York City	The Insulation Contractors Association of New York City, Inc.
International Association of Heat and Frost Insulators and Allied Workers Local No. 12A of New York City	Independent
International Association of Heat and Frost Insulators and Allied Workers Local No. 12A of New York City	Environmental Contractors Association, Inc.
International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers, AFL- CIO, Local Lodge No. 5	Boilermakers Association of Greater New York
Local Union No. 3 International Brotherhood of Electrical Workers, AFL- CIO	New York Electrical Contractors Association
International Brotherhood of Teamsters, Local 282, High Rise Contract	Building Contractors Association & Independents
Local 46 Metallic Lathers Union and Reinforcing Iron Workers of NY and Vicinity of the International Association of Bridge, Structural, Ornamental and Reinforcing Iron Workers	Cement League
Local 46 Metallic Lathers Union and Reinforcing Iron Workers of NY and Vicinity of the International Association of Bridge, Structural, Ornamental and Reinforcing Iron Workers	Independent
Local 8 Roofers, Waterproofers & Allied Workers	Roofing and Waterproofing Contractors Association of New York and Vicinity
Local Union 1 of the United Association of Journeymen and Apprentices of the Pipe Fitting Industry of the United States and Canada	Association of Contracting Plumbers of the City of New York
Local Union Number 40 & 361 of Bridge, Structural Ornamental and Reinforcing Iron Workers AFL-CIO	Independent
Mason Tenders DC & Laborers' International Union – Local 78 & 79	Building Contractors Association
Mason Tenders DC & Laborers' International Union – Local 78 & 79	Interior Demolition Contractors Association

Mason Tenders DC & Laborers' International Union – Local 78 & 79	Independent
Mason Tenders DC & Laborers' International Union – Local 78 & 79	NYCDCA
Mason Tenders DC & Laborers' International Union – Local 78 & 79	Environmental Contractors Association
Mason Tenders DC & Laborers' International Union – Local 78 & 79	ABMC
Operative Plasterers' and Cement Masons' International Association Local No. 262	Independent
Painters and Allied Trades AFL-CIO, District Council No. 9 (Painting and Protective Coatings CBA)	Independent
Painters and Allied Trades AFL-CIO, District Council No. 9 (Painting and Protective Coatings CBA)	The Association of Master Painters & Decorators of NY, Inc. and The Association of Wall, Ceiling & Carpentry Industries of NY, Inc. and The Window and Plate Glass Dealers Association
Sheet Metal Workers' International Association, Local 28	Sheet Metal & Air Conditioning Contractors Association of New York City, Inc.
Sheet Metal Workers' International Association, Local 137	The Greater New York Sign Association
Structural Steel and Bridge Painters Local 806, DC 9 International Union of Painters and Allied Trades, AFL-CIO	New York Structural Steel Painting Contractors Association
The Cement Masons' Union, Local 780	Cement League
The District Council of Cement and Concrete Workers (comprised of Local 6A; Local 18A and Local 20)	Cement League
The District Council of Cement and Concrete Workers (comprised of Local 6A; Local 18A and Local 20)	Independent
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Heavy Carpenters	GCA

Professional in the institution Metabolic Confession Confession (Confession Confession C	
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Dockbuilders Local No. 1556	Concrete Contractors of NY
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Dockbuilders Local 1556	Independent
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Millwright Local 740	Independent
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Timbermen Local 1556	Independent
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Timbermen Local 1556	GCA
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Heavy Carpenters	Independent
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Carpenters	Manufacturing Woodworkers Association of Greater New York Incorporated
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America	The Hoisting Trade Association of New York, Inc.
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America	The Test Boring Association
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America	Building Contractors Association
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America	The Association of Wall-Ceiling & Carpentry Industries of New York, Incorporated

The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners	The Cement League
The District Council of NYC and Vicinity of the United Brotherhood of Carpenters and Joiners of America	New York City Millwright Association
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners	Greater New York Floor Covering Association
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Carpenters	Association of Architectural Metal & Glass
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Carpenters	Concrete Contractors of NY
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Building Construction Carpenters	Independent
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Local 2287	Independent
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Shop Carpenters	Independent
The Tile Setters and Tile Finishers Union of New York and New Jersey, Local 7 of the International Bricklayers and Allied Craftworkers	The Greater New York and New Jersey Contractors Association
United Derrickmen & Riggers Association, Local 197 of NY, LI, Westchester & Vicinity	Contracting Stonesetters Association Inc.
United Derrickmen & Riggers Association Local 197 of NY, LI, Westchester and Vicinity	Building Stone and Pre-cast Contractors Association

EXHIBIT "A" – LETTER OF ASSENT

NYS DOT PLA - HUNTS POINT ACCESS IMPROVEMENTS (CONTRACT 3) PIN #X 731.65

The undersigned party confirms that it agrees to be a party to and be bound by the Project Labor Agreement covering NYS DOT PLA – HUNTS POINT ACCESS IMPROVEMENTS (CONTRACT 3) PIN #X 731.65 as such Agreement may, from time to time, be amended by the parties or interpreted pursuant to its terms. The terms of the Project Labor Agreement, its Schedules, Addenda and Exhibits are hereby incorporated by reference herein.

The undersigned, as a Contractor or Subcontractor (hereinafter Contractor) on the Project known as: NYS DOT PLA – HUNTS POINT ACCESS IMPROVEMENTS (CONTRACT 3) PIN #X 731.65 and located at Hunts Point for and in consideration of the award to it of a contract to perform work on said PROJECT, and in further consideration of the mutual promises made in the Project Labor Agreement, a copy of which was received and is acknowledged, hereby:

- (1) Accepts and agrees to be bound by the terms and conditions of the Agreement, together with any and all schedules; amendments and supplements now existing or which are later made thereto.
- (2) Agrees to be bound by the legally established collective bargaining agreements and local trust agreements as set forth in the Project Labor Agreement and this Agreement but only to the extent of Project Work and as required by the PLA.
- (3) Authorizes the parties to such local trust agreements to appoint trustees and successor trustees to administer the trust funds and hereby ratifies and accepts the trustees so appointed as if made by the Contractor but only to the extent of Project Work as required by the PLA.
- (4) Certifies that it has no commitments or agreements that would preclude its full and complete compliance with the terms and conditions of said Agreement. The Contractor agrees to employ labor that can work in harmony with all other labor on the Project and shall require labor harmony from every lower tier subcontractor it has engaged or may engage to work on the Project. Labor harmony disputes/issues shall be subject to the Labor Management Committee provisions.
- (5) Agrees to secure from any Contractor(s) (as defined in said Agreement) which is or becomes a Subcontractor (of any tier), to it, a duly executed Agreement to be Bound in from identical to this document.

Provide description of work, identify craft jurisdiction(s) and provide all contract numbers below:

Name of Contractor or Subcontractor:		
Authorized Officer & Title:		
Address:		
Phone:	Fax:	
Contractors State License #:		
Entity your company is contracted with and	address:	
	Signed:	
Sworn to before me this day of, 20	Dated:	_
Notary Public		

EXHIBIT "B" - STANDARD OF EXCELLENCE

NEW YORK CITY BUILDING AND CONSTRUCTION TRADES COUNCIL STANDARDS OF EXCELLENCE

The purpose of this Standard of Excellence is to reinforce the pride of every construction worker and the commitment to be the most skilled, most productive and safest workforce available to construction employers and users in the City of New York. It is the commitment of every affiliated local union to use our training and skills to produce the highest quality work and to exercise safe and productive work practices.

The rank-and-file members represented by the affiliated local unions acknowledge and adopt the following standards:

- > Provide a full day's work for a full day's pay;
- > Safely work towards the timely completion of the job;
- > Arrive to work on time and work until the contractual quitting time;
- > Adhere to contractual lunch and break times;
- > Promote a drug and alcohol-free work site;
- > Work in accordance with all applicable safety rules and procedures;
- > Allow union representatives to handle job site disputes and grievances without resort to slowdowns, or unlawful job disruptions;
- > Respect management directives that are safe, reasonable and legitimate;
- > Respect the rights of co-workers;
- > Respect the property rights of the owner, management and contractors.

The Unions affiliated with the New York City Building and Construction Trades Council will expect the signatory contractors to safely and efficiently manage their jobs and the unions see this as a corresponding obligation of the contractors under this Standard of Excellence. The affiliated unions will expect the following from its signatory contractors:

- > Management adherence to the collective bargaining agreements;
- > Communication and cooperation with the trade foremen and stewards;
- > Efficient, safe and sanitary management of the job site;
- > Efficient job scheduling to mitigate and minimize unproductive time;
- > Efficient and adequate staffing by properly trained employees by trade;
- > Efficient delivery schedules and availability of equipment and tools to ensure efficient job progress;
- > Ensure proper blueprints, specifications and layout instructions and material are available in a timely manner
- > Promote job site dispute resolution and leadership skills to mitigate such disputes;
- > Treatment of all employees in a respectful and dignified manner acknowledging their contributions to a successful project.

The affiliated unions and their signatory contractors shall ensure that both the rank and file members and the management staff shall be properly trained in the obligations undertaken in the Standards of Excellence.

EXHIBIT "C" - Buildsafe NYC Safety Codes of Conduct





Buildsafe NYC Safety Codes of Conduct

Mission Statement – To ensure the safety of all workers and the public by maintaining high standards of the unionized construction industry on all construction projects under the supervision of contractors affiliated with the Building Trades Employers' Association and Building and Construction Trades Council Union Affiliates.

- BTEA member companies and BCTC unions and their members shall work together in a professional and respectful manner at all times.
- The workforce shall adhere to the use of personal protective equipment (PPE) usage in accordance with OSHA Guidelines at all times including:
 - a. ANSI compliant Hard Hats (with ratchet suspension) at all times (supplied by employer)
 - b. Construction-type Work Boots at all times
 - c. Long Pants and shirts with at least short sleeves at all times (no shorts or tank tops)
 - d. ANSI compliant Eye Protection shall be worn at all times (supplied by employer)
 - e. Adequate Hearing Protection in their possession and used as needed (supplied by employer)
 - High-vis outer garments to be worn on site pursuant to OSHA Guidelines (supplied by employer)
- CM and Subcontractor management shall implement a fair and consistent disciplinary policy
 for all site personnel regarding the adherence to site safety rules and requirements.
 Likewise, a joint labor/management team will periodically assess project wide
 implementation of these Codes.
- 4. CM firms shall maintain clean and functioning workforce restrooms, hygiene facilities and housekeeping, initially and throughout the duration of the project. Management and workforce shall make all efforts to keep the facilities graffiti free.
- All personal shall adhere to a strict policy against drug and alcohol possession and use on sites and during hours of work.
- 6. All workers must complete a job specific Project Safety Orientation Class prior to beginning work on every major project. Workers shall present either a valid OSHA 10 or 30 card within 5 years of date of issue in addition to all certifications and proof of safety training for trade specific tasks they will be engaging in on the project. Worker certifications of safety training for specific tasks such as fire watch, flagmen, and safety attendant must be verified. All personnel must have and be able to show a valid OSHA 10 card with them at all times.

- 7. Management will create a method for expedited entry procedures to allow access to project sites for general contractors, subcontractors and labor. Labor representatives shall be provided with site access immediately. The Building Trades Employers' Association and the Building and Construction Trades Council Union Affiliates will endeavor to develop a universal job access badge for Union representatives..
- No unauthorized cell phones, portable media devices, radios, or other devices that limit hearing and attention shall be used while working on sites.
- Ground Fault Circuit Interrupters (GFCI) will be used on all power tools and extension cords.
- 10. Union trade representatives shall participate in a regularly scheduled site safety meeting on all projects regardless of size.
- 11. Extreme effort shall be made to isolate the public from all construction activity. Specifically, systems shall be put in place to control falling materials and pedestrian exposure. This should be a top priority for the entire project workforce.
- 12. Workers shall honor security access control systems to establish entry to sites by authorized personnel only, where applicable.
- 13. Fall protection management shall be a top project priority. Workers shall maintain and use necessary fall protection systems and procedures where appropriate. Engineering controls and work methods which eliminate, guard, or otherwise control fall hazards shall take priority over personal fall arrest system usage.
- 14. Where hazardous materials are present, projects shall implement efforts to communicate and control potential exposure to the workforce.
- 15. No smoking at any time anywhere on the construction site per Department of Buildings rules and regulations.
- 16. All incidents/accidents, or unsafe working conditions should be immediately reported to supervisors.

Louis of Coleth Louis J. Coletti

President & CEO
Building Trades Employers' Association

Deanter 8, 2015

Gary LaBabera

Building and Construction Trades Council

12/8/15 Date

SP-18. GUIDELINES FOR THE USE OF LINK SLABS

RFP Part 5 – Special Provision 18 Requirements for Bridges with Link Slabs

18.1 GENERAL

The term 'Link Slab' shall be as defined in the NYSDOT Bridge Manual.

The use of a link slab at a support with a skew angle that exceeds 45 degrees is prohibited.

For the purposes of analyzing a structure's global behavior and design of the superstructure, bearings, substructures, and foundations, a link slab shall be assumed to act as a pinned connection between the spans it joins. This results in a superstructure that behaves as simply supported at the link slab locations when subject to vertical loads yet articulates similarly to a continuous multi-span superstructure when experiencing horizontal forces and thermal movements. This behavior of the superstructure is referred to as contiguous.

The use of link slabs on a bridge in place of deck expansion joints creates a contiguous segment. A contiguous segment shall be defined as all the spans, whether they be simple span units or continuous span units, that have been joined by link slabs. A contiguous segment's length is the distance between the expansion joints located at the beginning and end of the segment.

Each contiguous segment must contain at least one substructure with fixed bearings. In certain situations, it may be advantageous to have multiple substructures, within a contiguous segment, with fixed bearings. When using this bearing arrangement, the forces generated due to the superstructure's thermal movements shall be accounted for in the analysis/design of the fixed bearings, superstructure, substructures, and foundations.

Type E.B. bearings (deformation expansion, sliding expansion, fixed), conforming to NYSDOT standards, are the only types of bearings permitted for use underneath link slabs. For piers with two lines of bearings supporting two adjacent span ends, at least one line of bearings must be expansion. Sliding expansion bearings, which use a stainless steel over PTFE slip plane, may be necessary for longer contiguous segments. Details and material requirements for sliding expansion bearings are provided in Part 7. The final bearing configuration for a contiguous segment shall be in place prior to the construction of any link slab within a segment. This requirement shall be noted in the contract plans.

The required design procedure uses a simplified approach where the girder's end rotation is applied to the link slab at the ends of the debonded zone to induce a uniform bending moment throughout the debonded portion of the link slab. Although link slabs are assumed to behave as a pinned connection between spans when analyzing the structure's global behavior, they shall not be assumed to act as pinned for the purposes of designing the actual link slab or its anchorage. Link slabs shall be designed following the assumptions, procedures, and requirements used and stated in the UHPC Link Slab Design Example provided in Part 7.

Link slabs shall be detailed in accordance with the UHPC Link Slab Details provided in Part 7. The type of rebar corrosion protection used in link slabs shall match that of the superstructure slab. An expansion joint shall be provided in any concrete component placed on top of a link slab (barrier, sidewalk, curb, etc.). Within the debonded zone, a bond breaker shall be applied at the interface of the link slab's debonded zone and concrete component(s). Any vertical, or inclined,

anchorage reinforcement that protrudes from within the link slab's debonded zone shall be debonded. These details are necessary for the link slab to strain as designed and to prevent excessive cracking of any adjoining concrete component(s).

If a link slab is constructed utilizing staged construction, it may be necessary to install temporary links so that the behavior of the superstructure at the supports is uniform across its entire width. Temporary links shall be designed, detailed, and installed so that the girders where the link slab has not yet been installed will rotate at the same elevation as the centroid of the link slab that is already in place, rather than rotating at the bearings.

18.1.1 BEARING ANALYSIS ASSUMPTIONS

In the context of the NYSDOT LRFD Bridge Design Specifications, a bearing's resistance to movement, no matter how that resistance is generated (deformation, sliding friction, etc.), shall be considered a friction force. For the purposes of this Special Provision, the portion of a bearing's friction force attributable to surfaces sliding past one another shall be taken to be the static friction force, or the force required for stationary surfaces to initiate movement. The bearing's friction force is dependent on various mechanisms such as bearing type, geometry, material properties, pressure, and temperature. The friction force of all bearings shall be accounted for in design of the superstructure, link slabs, substructures, foundations, connections, and the bearings themselves.

Both upper bound and lower bound material property assumptions that effect the behavior of the bearing need to be considered when determining the controlling load effects on a particular bridge component. The bearing material property ranges found in Section 14 of the NYSDOT LRFD Bridge Design Specifications shall be used.

Type E.B. deformation expansion bearings provide horizontal resistance by shear deformation of the elastomer. A bearing's resistance to deformation fluctuates due to variations that occur in the elastomer's shear modulus. As such, both upper bound and lower bound values for the shear modulus need to be considered when determining the load transferred through the bearing, as well as the restraint that the bearings provide to other bridge components.

Type E.B. sliding expansion bearings provide horizontal resistance by either deformation, when the friction force does not exceed the deformation force, or by sliding when the friction force exceeds the deformation force. Both of these behaviors need to be considered when determining the load transferred through the bearing, as well as the restraint that the bearings provide to other bridge components. Being that the friction force is dependent on the materials in contact, surface finish, pressure, temperature, and presence of contaminants, the assumptions used to determine the friction force need to account for both upper bound and lower bound values of all contributing factors. To account for both deformation and sliding, the bearings shall be modeled assuming a linear spring that is limited to generating a force equal to the static friction of the sliding surfaces. The assumed stiffness of Type E.B. fixed bearings shall be calculated as the flexural stiffness of the bearing pin in single curvature.

18.118.2 NEW AND REPLACEMENT BRIDGES

New and replacement bridges with link slabs shall be designed in accordance with the NYSDOT LRFD Bridge Design Specifications, NYSDOT Bridge Manual, and Sections 18.1, 18.1.1, and this section of this special provision.

For the design of foundations, substructures, and bearings horizontal force effects shall be determined by using either the relative stiffness or simplified distribution methods defined below.

Relative Stiffness Method

Structural models shall be used to determine the distribution of applied horizontal forces to the substructures and bearings based on the relative stiffness of all participating structural components. At a minimum, models shall include the multi-directional stiffness of the superstructure, bearings, and substructures. Each components' assumed stiffnesses need to be considered such that the controlling force effects are generated at each substructure. In order to meet this requirement multiple structural models are typically needed to envelope variations in component stiffnesses. Given the complexities of performing a structural analysis where an individual component's stiffness alters the distribution of forces, combined with the need to vary stiffness assumptions, the relative stiffness method often lends itself to the use of structural modeling software.

Simplified Distribution Method

Assume that all applied horizontal forces, except for friction and uniform temperature, act on the fixed support. The horizontal forces acting on expansion supports shall be computed using the tributary length of the superstructure, except for friction and uniform temperature. Forces due to friction and uniform temperature shall be calculated under the assumption that the fixed support, and its bearings, are infinitely stiff while using stiffness assumptions at expansion supports that produce the controlling force effects at each substructure. The simplified distribution method shall not be used when multiple substructures within a contiguous segment have fixed bearings.

All forces due to external restraints, such as friction of sliding approach slabs and soil pressure acting on nonconventional abutments, shall be included when determining the thermal forces acting on the substructures. Forces due to external restraints shall be ignored when determining all the other forces acting on the substructures.

Reinforced concrete columns, solid pier stems, and abutment stems shall be modeled using partially cracked section properties that are assumed to be equal to one-half the uncracked transformed section. The load factor for uniform temperature (TU) shall be taken as 1.0 for all the Strength and Service load combinations.

All seismic provisions for new and replacement bridges shall apply and bearing pins shall not be designed to 'fuse' during a seismic event.

The requirements of NYSDOT LRFD Bridge Design Specifications Article 4.7.4.4 shall apply to all substructures that are located underneath a link slab. The length (L) in equation 4.7.4.4-1 shall be taken as the distance from the centerline of the support, for which the support length is being computed, to the furthest expansion joint or jointless abutment of the contiguous segment.

18.218.3 EXISTING BRIDGES

When link slabs are installed on an existing bridge, a contiguous segment is formed which results in changes to the structure's global behavior. A structural analysis is required to quantify the changes in the horizontal forces acting on existing substructures and foundations. The results of this analysis, along with any other sources of additional load, shall be used to determine if any of the existing substructures, including their foundations, need to be strengthened or replaced, to meet the projects requirements. The Department uses both a simplified analysis and a refined analysis for analyzing existing bridges retrofitted with link slabs. A simplified analysis shall be used and, only if this is not satisfied, may a refined analysis be used.

The requirements of NYSDOT LRFD Bridge Design Specifications Article 4.7.4.4 shall apply to all substructures that are located underneath a link slab. If a substructure does not meet these requirements in its existing state, the bridge seat shall be widened or restrainers shall be installed. Restrainers shall be capable of supporting the spans at the extreme limit state if unseating of the superstructure were to occur. Additionally, restrainers shall not transfer horizontal forces from the superstructure to the substructures. The length (L) in equation 4.7.4.4-1 shall be taken as the distance from the centerline of the support, for which the support length is being computed, to the furthest expansion joint, or abutment, adjacent to the contiguous segment.

18.2.1 18.3.1 SIMPLIFIED ANALYSIS OF CONTIGUOUS SEGMENTS

A simplified analysis only considers the relative change in longitudinal forces acting on the substructures due to the installation of link slabs, new bearings, elimination of longitudinal deck joints, and any other relevant superstructure and substructure modifications.

The premise of a simplified analysis is that as long as the existing structure is competent and the installation of link slabs, along with any other relevant modifications, does not increase the forces on the substructures, then using a simplified analysis for link slab retrofits is a valid way to eliminate bridge joints without needing to analyze each and every component of the existing structure. If the new factored longitudinal forces are found to be greater than the existing factored longitudinal forces, a refined analysis shall be used to determine if any of the existing substructures, and their foundations, need to be strengthened, or replaced, to meet the projects requirements.

When performing a simplified analysis, it is important that the forces be calculated using the same methodology, assumptions, and procedures for both the existing and proposed condition. The exact methodology for applying the forces is inconsequential, as the analysis is looking for the change in applied forces, not the magnitude of the forces. A consistent approach to how the forces are calculated is necessary to accurately capture how the link slabs, along with any other relevant modifications to the structure, alter the forces acting on the substructures. The longitudinal forces used in a simplified analysis shall be those acting at the bridge seat elevation.

The requirement to perform a seismic analysis, meet seismic requirements, and satisfy the Extreme Event I load combination is waived when using the simplified method.

All bearings shall be designed according to the NYSDOT LRFD Bridge Design Specifications and NYSDOT Bridge Manual. All fixed bearing pins shall be designed to resist only the Strength I, III, and V load combinations. Additionally, fixed bearing pins shall not be designed to meet the requirement for 15% of the total vertical force as stated in Article 14.7.9.2 of the NYSDOT LRFD Bridge Design Specifications. The minimum pin diameter given on the NYSDOT BD Sheets is

waived and the smallest available pin diameter that satisfies the design shall be used; overdesigning the pin is prohibited. This is required so that during a seismic event the bearing pins will act as a 'fuse', essentially isolating the superstructure from the substructure in the longitudinal direction, preventing excessive damage to the fixed substructure(s).

Given that a simplified analysis only considers the changes in longitudinal forces acting on the substructures, all substructures must be provided with restraint to the superstructure's movement in the lateral direction by the use of guides or keeper angles on the bearings, or shear block(s) on the bridge seats of all substructures, including those with fixed bearings. This results in the transverse loads being shared by all the substructures predominantly along the strong axis of the substructures and foundations. Lateral restraints shall be designed to allow transverse temperature related movement of the superstructure and be aligned with the superstructures assumed direction of thermal movement.

<u>Analysis requirements for comparing the longitudinal forces acting on existing substructures are</u> as follows:

- 1. Structural models shall be created, for the existing and proposed conditions, that include the abutments, piers, bearings, and superstructure. The objective of these models is to get an accurate assessment of how the longitudinal loads are distributed to the substructures, within a contiguous segment, based on the superstructure's continuity and the relative stiffness of all the supports, which shall include the combined stiffness of the bearings and columns, or stems, at each substructure. An appropriate level of refinement shall be provided in the models to meet this objective.
- 2. Substructures that are skewed 20° or less to the assumed direction of applied horizontal loads may be modeled as a single element whose section properties represent the combined stiffness of the columns when bending about the substructure's longitudinal axis. Substructures that exceed this skew limit shall be modeled such that bi-axial bending and the corresponding substructure stiffness are accounted for.
- 3. Reinforced concrete columns, solid pier stems, and abutment stems shall be modeled using partially cracked section properties that are assumed to be equal to one-half the uncracked transformed section.
- 4. Existing and proposed longitudinal loads shall be computed in accordance with the NYSDOT LRFD Bridge Design Specifications. The load factor for uniform temperature (TU) shall be taken as 1.0 for all the Strength load combinations.
- 5. When determining braking forces, it shall be assumed that the direction of travel will not change in the future, and that the actual number of lanes that is currently carried, or will be carried at the completion of the project, is used, in lieu of using the number of design lanes that fit within the roadway width.
- 6. For existing superstructures that are supported on steel rocker bearings or steel sliding bearings, it shall be assumed that 100 percent of the applied longitudinal forces act on the fixed support while each expansion support resists a longitudinal force proportional to their supported tributary length of the superstructure. The sum of longitudinal forces resisted by all substructures will exceed the total applied longitudinal force to the superstructure.

4.7. All forces due to external restraints, such as friction of sliding approach slabs and soil pressure acting on nonconventional abutments, shall be included when determining the thermal forces acting on the substructures. Forces due to external restraints shall be ignored when determining all the other forces acting on the substructures.

8.

18.3.2 REFINED ANALYSIS OF CONTIGUOUS SEGMENTS

A refined analysis shall consider all the forces acting on the substructures and their foundations including the effects of link slabs, bearings, and any other relevant superstructure and substructure modifications. These forces shall be determined using a relative stiffness analysis where the distribution of lateral loads is a function of the multi-directional stiffness of the superstructure, bearings, and substructures.

The capacity, or resistance, of all existing substructures and foundations then needs to be evaluated for the new factored loads. If any of the existing substructures or foundations of bridges originally designed with the NYSDOT LRFD Bridge Design Specifications no longer meet their original design code, they shall be strengthened or replaced as part of the scope of the project. For all other bridges, if any of the existing substructures or foundations do not meet either the NYSDOT LRFD Bridge Design Specifications, or the NYSDOT Standard Specifications for Highway Bridges using HS 20 loading, they shall be strengthened or replaced as part of the scope of the project.

All bearings shall be designed according to the NYSDOT LRFD Bridge Design Specifications and the NYSDOT Bridge Manual. All fixed bearing pins shall be designed to resist only the Strength I, III, and V load combinations. Additionally, the pins shall not be designed to meet the requirement for 15% of the total vertical force, as stated in Article 14.7.9.2 of the NYSDOT LRFD Bridge Design Specifications, and the minimum pin diameter given on the NYSDOT BD Sheets is waived. These exemptions are required so that during a seismic event the bearing pins will act as a 'fuse' that limits the applied seismic load on the existing fixed substructure(s) to be only slightly greater than the non-seismic loads.

The requirement to perform a seismic analysis, for the purposes of determining the seismic lateral loads, is waived when using the refined method. Rather, the seismic loads used for either the Extreme Event I load combination (if using LRFD), or Group VII (if using LFD), shall be taken as the lateral resistance of the bearing pins. The lateral resistance of the bearing pins shall be the only transverse and longitudinal loads included in seismic load combinations.

The lateral resistance of a bearing pin shall be determined using equation 6.7.6.2.1-1 of the NYSDOT LRFD Bridge Design Specifications with the following modifications: 1) Mu replaced by Vu times the height of the bearing pad (hpad) (combined thickness of elastomeric layers and internal steel plates), 2) Fy replaced by the ultimate strength (Fu) of the steel pin, 3) resistance factors removed, and 4) less than or equal to 0.95 replaced by equal to 1.0. The equation shall then be solved for Vu and the solution used as the lateral resistance of a single bearing pin. The modified equation is as follows:

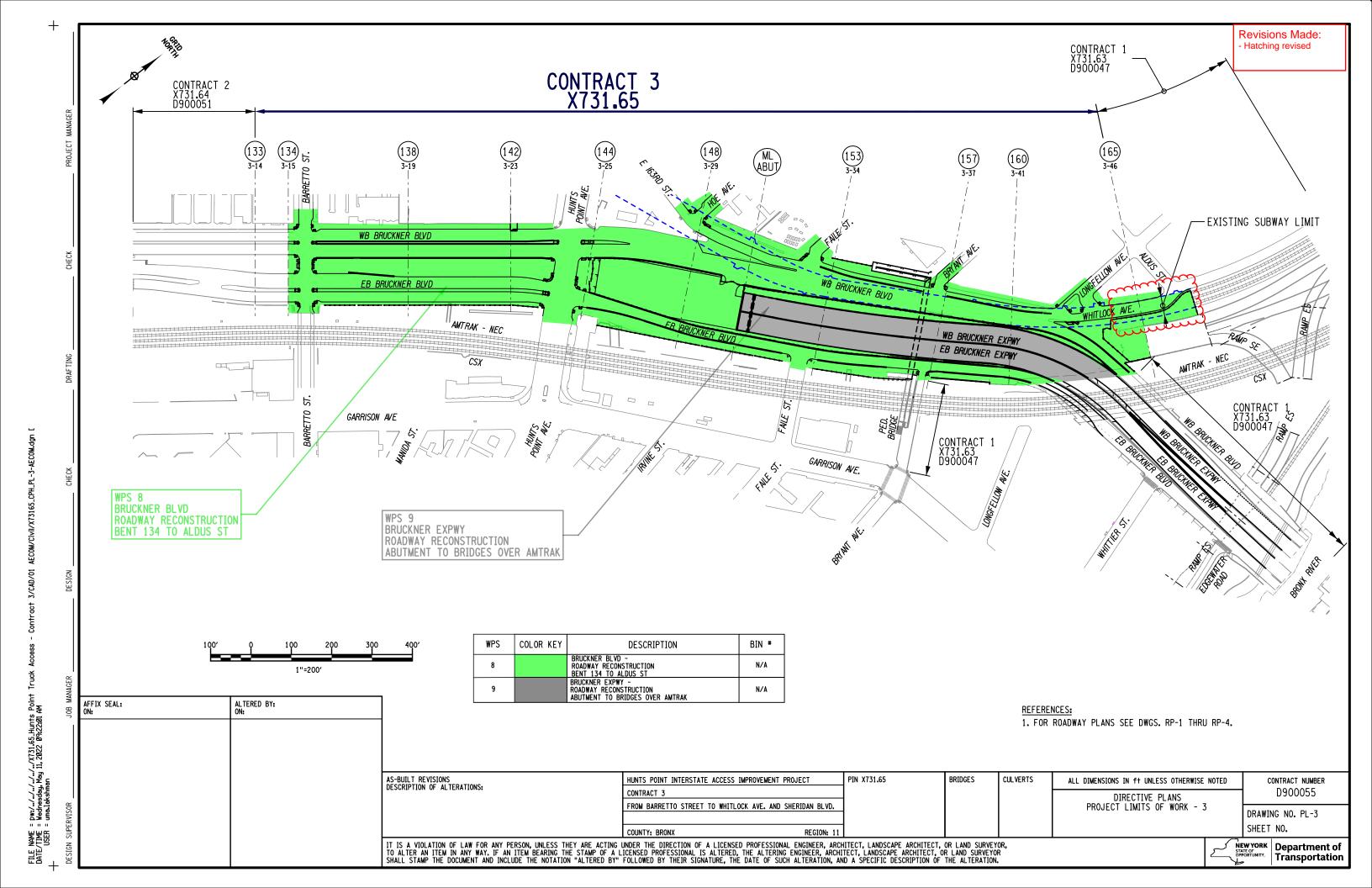
$$\frac{6.0V_u h_{pad}}{D^3 F_u} + \left(\frac{2.2V_u}{D^2 F_u}\right)^3 = 1.0$$

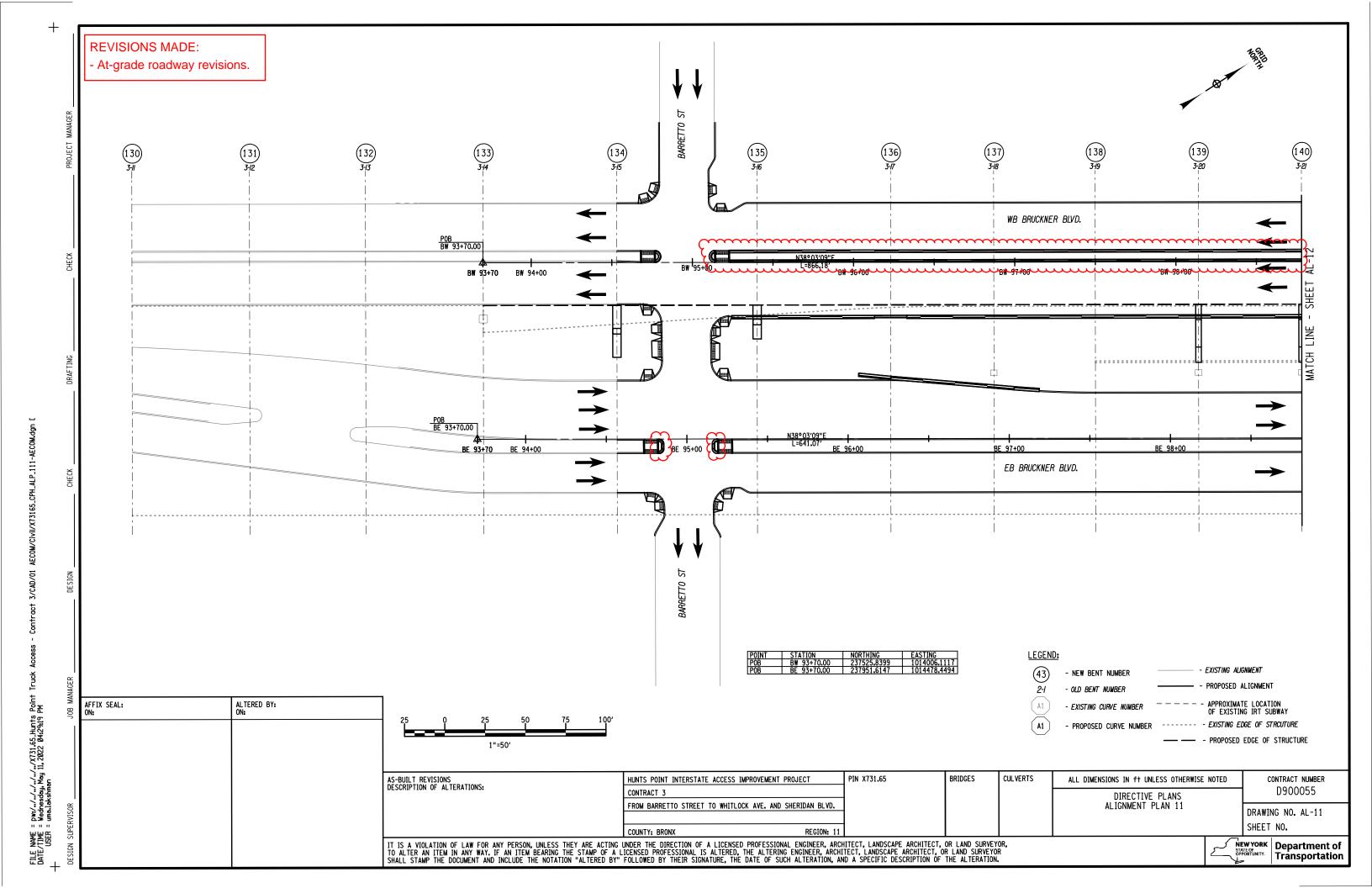
Analysis requirements when performing a refined analysis are as follows:

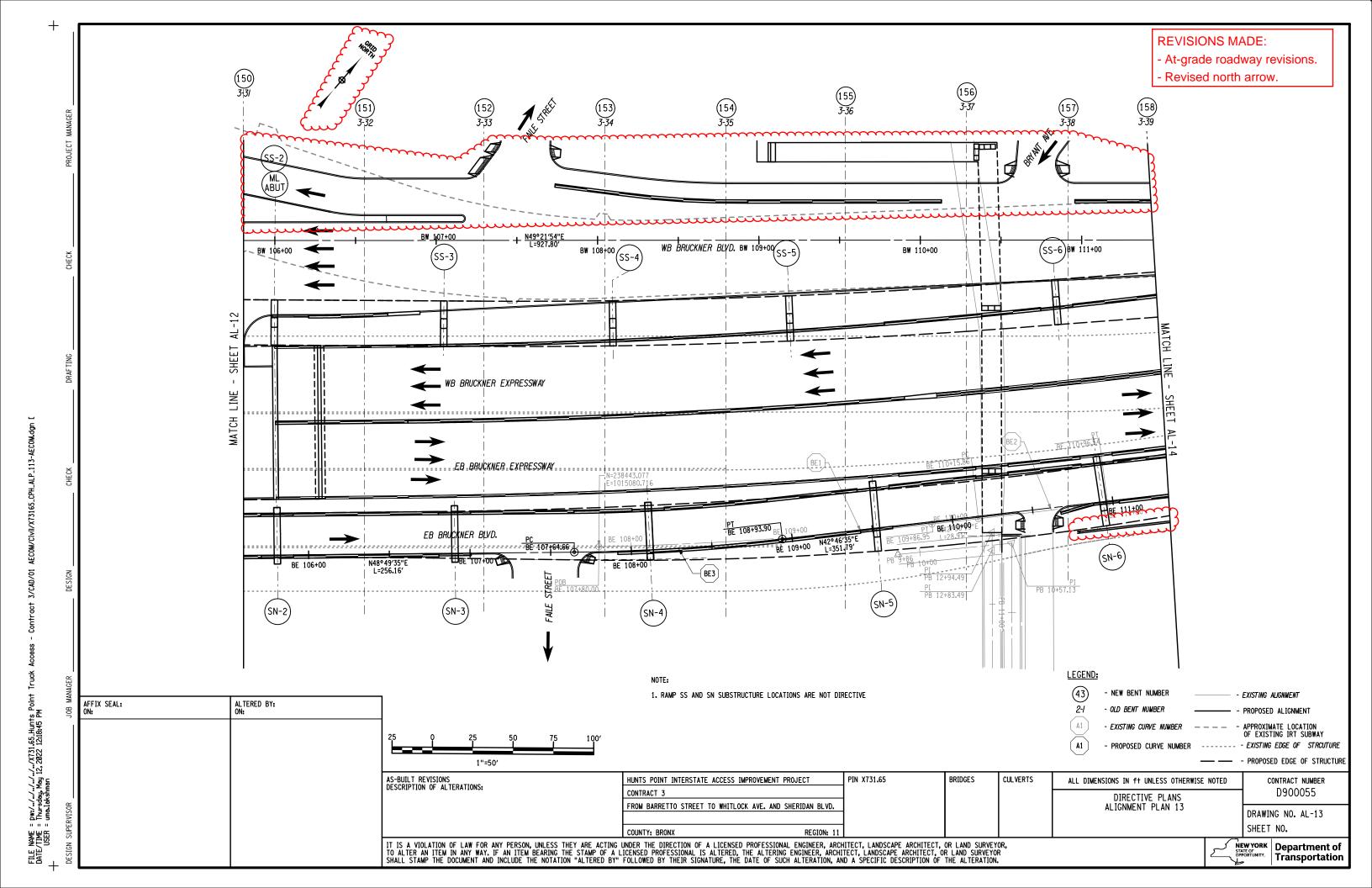
- 1. A structural model for the proposed conditions shall be created that includes the abutments, piers, bearings, and superstructure. The objective of this model is to get an accurate assessment of how the horizontal loads will be distributed to the substructures, within a contiguous segment, based on the superstructure's stiffness and continuity, as well as the relative stiffness of all the supports, which shall include the combined stiffness of the bearings and columns, or stems, at each substructure. An appropriate level of refinement shall be provided in the model to meet this objective.
- Reinforced concrete columns, solid pier stems, and abutment stems shall be modeled using partially cracked section properties that are assumed to be equal to one-half the uncracked transformed section.
- 3. The proposed horizontal loads shall be computed in accordance with the appropriate design code, as defined above. When using the NYSDOT LRFD Bridge Design Specifications, the load factor for uniform temperature (TU) shall be taken as 1.0 for all the Strength load combinations.
- 4. When determining braking forces, it shall be assumed that the direction of travel will not change in the future, and that the actual number of lanes that is currently carried, or will be carried at the completion of the project, is used, in lieu of using the number of design lanes that fit within the roadway width
- 5. All forces due to external restraints, such as friction of sliding approach slabs and soil pressure acting on nonconventional abutments, shall be included when determining the thermal forces acting on the substructures. Forces due to external restraints shall be ignored when determining all the other forces acting on the substructures.

All forces due to external restraints, such as friction of sliding approach slabs and soil pressure acting on nonconventional abutments, shall be included when determining the thermal forces acting on the substructures. Forces due to external restraints shall be ignored when determining all the other forces acting on the substructures.

Revisions Made: PART 6 FINAL RFP: - Index updated for Addendum 1 and 2 Directive: Sheet # Drawing Name: Cover Sheet COV-1 Index of Drawings IND-1 Bin Maps BIN-1 4 PL-1 WPS Sheets PL-2 6 PL-3 Work Zone General Notes WZTC-GN-1 AL-1 AL-2 10 AL-3 11 AL-4 12 AL-5 13 AL-6 14 AL-7 Alignment Sheets 15 AL-8 16 AL-9 17 AL-10 18 AL-11 19 AL-12 20 AL-13 21 AL-14 22 MST-1 23 MST-2 Alignment Tables 24 MST-3 25 MST-4 26 RP-1 27 RP-2 28 RP-3 Roadway Sheets 29 RP-4 RP-5 PRK-1 Parking Lot Plan 32 DET-01 33 DET-02 Architectural Details AECOM/Civil/X73165_CPH_IND_001-AECOM.dgn 34 DET-03 35 36 DET-04 LN-01 37 LN-02 38 TPD-01 39 PN-01 40 UD-01 41 UD-02 42 UD-03 43 UD-04 Urban Design & Landscaping 44 UD-05 45 UD-06 46 UD-07 47 UD-08 Contract 3/CAD/01 48 UD-09 49 LEK-01 50 UDE-01 51 UDE-02 52 LPT-02 Joint & Link Slab Layout LSL-01 SR-01 53 55 SR-02 Steel Repair Locations 56 SR-03 FILE NAME = pw:/../../../.././X731.65.Hunts Point Truck DATE/TIME = Friday, March 04, 2022 02:13:45 PM USER = uma.lakshman 57 CON-1 58 CON-2 Concrete Repair Locations AFFIX SEAL: ON: ALTERED BY: ON: 59 CON-3 60 CON-4 Railroad Retaining Wall Concrete Repair 61 RW-01 Locations Railroad Bridge Abutment Concrete Repair 62 ABUT-01 Locations AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS: PIN X731.65 BRIDGES CULVERTS HUNTS POINT INTERSTATE ACCESS IMPROVEMENT PROJECT ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED CONTRACT NUMBER D900055 CONTRACT 3 DIRECTIVE PLANS INDEX OF DRAWINGS FROM BARRETTO STREET TO WHITLOCK AVE. AND SHERIDAN BLVD. DRAWING NO. IND-1 SHEET NO. COUNTY: BRONX REGION: 11 IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION. NEW YORK STATE OF OPPORTUNITY. Department of Transportation







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HUNTS POINT , 2018 9:37:14

M:\17-940 BRUCKNER Tuesday, December 11,

1. PRE-CONSTRUCTION LANDSCAPE INSPECTION: IF WORK ZONES ARE DETAILED IN THE CONTRACT DOCUMENTS, THE ENGINEER-IN-CHARGE SHALL CONTACT THE REGIONAL LANDSCAPE ARCHITECT, AND THE NYCDOT OFFICE OF CONSTRUCTION MITIGATION AND COORDINATION (WHO WILL IN TURN CONTACT THE DIRECTOR OF NYCDOT ARTERIAL MAINTENANCE AND, IF NYC DEPARTMENT OF PARKS AND RECREATION (NYCDPR) PERMITS ARE INVOLVED, THEIR INTERAGENCY COORDINATOR), WITHIN TEN (10) BUSINESS DAYS OF THE AWARD OF THE CONTRACT TO ARRANGE

ALL PRE-EXISTING LANDSCAPE FEATURES AND CONDITIONS, INCLUDING DAMAGE TO PLANTS AND STRUCTURES WITHIN THE WORK ZONE SHALL BE DOCUMENTED THROUGH PHOTOGRAPHS (STILL OR VIDEO) AND DESCRIPTIONS. THE LIMITS OF THE WORK ZONE, WHICH ARE THE PROJECT LIMITS AS SHOWN ON THE TITLE SHEET, WILL BE IDENTIFIED IN THE FIELD THROUGH MARKERS SUCH THAT THEY ARE CLEARLY IDENTIFIABLE, THIS PHOTO-DOCUMENTATION WILL BE KEPT IN THE FIELD OFFICE FOR LATER USE IN VERIFYING THE ADEQUACY OF LATER SITE RESTORATION.

2. WORK ZONE AND TREE/ LANDSCAPE PROTECTION STAKEOUT: ALSO PRIOR TO ANY OTHER WORK, THE CONTRACTOR SHALL STAKE OUT THE LIMITS OF "TREE/ LANDSCAPE PROTECTION AREAS" WITHIN THE WORK ZONE AS SHOWN ON THE PLANS FOR APPROVAL BY THE EIC IN CONSULTATION WITH THE REGIONAL LANDSCAPE ARCHITECT AND THE REGIONAL CONSTRUCTION ENVIRONMENTAL COORDINATOR, MAJID BUKHARI AT 718-482-4792 (AND NYCDOT AND NYCDPR AS APPROPRIATE). IF NO TREE/ LANDSCAPE PROTECTION AREA LIMITS ARE SPECIFICALLY SHOWN ON THE PLANS, AND WORK WILL OCCUR IN OR NEAR TREES OR VEGETATED AREAS, THE EIC. IN CONSULTATION AS ABOVE, WILL DIRECT THE CONTRACTOR, THE INTENT OF THE LIMITS IS TO PROTECT THE ROOT ZONE OF INDIVIDUAL TREES AND GROUPINGS OF TREES (USING THE "DRIPLINE"--THE VERTICAL PROJECTION TO THE GROUND OF THE TREES' CANOPY--AS A GUIDE), LAWNS AND OTHER VALUABLE VEGETATION TO THE MAXIMUM EXTENT FEASIBLE WHILE ALLOWING THE CONTRACTOR SUFFICIENT ROOM TO OPERATE, THEREFORE, THE CONTRACTOR MUST ASSESS THE ADEQUACY OF THE ALLOWED SPACE FOR ALL CONCEIVABLE ACTIVITIES INCLUDING THE PARKING OF PERSONAL VEHICLES. IT IS UNDERSTOOD THAT WORK MAY NEED TO OCCUR IN THE ROOT ZONE OF TREES. IN SUCH CASES, THE CONTRACTOR MAY PROPOSE ADJUSTMENTS TO THE STAKEOUT OF PROTECTION LIMITS TO SUIT FIELD CONDITIONS AND SUCH OPERATIONS. ANY SUCH ADJUSTMENTS SHALL BE IN WRITING AND/OR SHOWN ON A PLAN AND/OR APPROVED BY THE FIG. NYCDOT AND NYCDPR.

AFTER APPROVAL OF THE STAKEOUT AND ADJUSTMENTS, "VEGETATION PROTECTION BARRIER/FENCING" SHALL BE PLACED ALONG THESE LIMITS UNLESS OTHERWISE SPECIFIED. STREET TREES OR OTHER INDIVIDUAL TREES IN PITS IN PAVED AREAS WILL BE PROTECTED BY WOODEN BARRIERS (NYCDPR STANDARD) AS SHOWN IN THE PLANS, ITEM 615,33010011.

ONCE VEGETATION PROTECTION BARRIER/FENCING IS IN PLACE, THE CONTRACTOR SHALL NOT ENTER, DAMAGE OR DIMINISH THE LANDSCAPE OR ANY PORTION THEREOF WITHIN THE DEFINED TREE/LANDSCAPE PROTECTION AREAS. ADDITIONALLY, WHERE WORK AREAS MUST ENCROACH ON TREE ROOT ZONES, THE CONTRACTOR, IF ORDERED BY THE EIC SHALL FURNISH AN 12 INCH LAYER OF WOOD CHIPS ALONG WITH CONSTRUCTION MATS WITHIN THE DRIPLINE AREA TO REDUCE SOIL COMPACTION, ALSO, WHEN OCCUPYING DRIPLINE AREAS, THE VEGETATION PROTECTION BARRIER/FENCING MUST BE IN PLACE AND THE CONTRACTOR SHALL AVOID STOCKPILING, STORING EQUIPMENT, DRIVING OR PARKING ANY VEHICLES TO THE MAXIMUM EXTENT POSSIBLE. ANY SUCH STOCKPILING SHALL

ALTERED BY:

3. APPROVED TREE REMOVALS OR PRUNING: PRIOR TO THE PERFORMANCE OF ANY FOR A PRECONSTRUCTION SITE INSPECTION WITH THE CONTRACTOR. TREE PRUNING OR REMOVALS WITHIN NYCDPR JURISDICTION AS DETERMINED BY

NYSDOT (OTHER THAN REMOVALS WHERE IT IS DETERMINED BY NYSDOT THAT "VOLUNTEER" TREES ARE CLEARLY CAUSING A SAFETY HAZARD OR THREATENING A STRUCTURE). THE CONTRACTOR SHALL CONTACT, THROUGH THE ENGINEER-IN-CHARGE, THE NEW YORK CITY PARKS DEPARTMENT (NYCDPR) BRONX FORESTER, MR. ZEV REUTER, 718-430-1820 / 1818 FOR THE BOROUGH(S) IN WHICH THE WORK IS LOCATED AND SHALL OBTAIN ANY REQUIRED FORESTRY PERMIT(S). THE DESIGN-BUILDER SHALL SUBMIT PERMIT APPLICATIONS AND DESIGN PLANS TO NYCOPR FOR APPROVAL AND OBTAIN NYCDPR PERMITS FOR THE PROJECT PRIOR TO APPROVAL.

BE REMOVED AS SOON AS POSSIBLE. BY THE END OF THE PROJECT. THE

ENTIRE WORK ZONE, WITH THE EXCEPTION OF ITEMS DOCUMENTED DURING

THE PRE-CONSTRUCTION INSPECTION, SHALL BE RESTORED PER THE CONTRACT

DOCUMENTS AND/OR TO STANDARDS MUTUALLY AGREED UPON IN ADVANCE BY

NYCDOT AND NYSDOT (AND NYCDPR, IF WITHIN THEIR JURISDICTION).

NO TREE PRUNING MAY BE PERFORMED EXCEPT BY (OR UNDER THE SUPERVISION OF) A QUALIFIED TREE-CARE PROFESSIONAL (CERTIFICATION BY THE INTERNATIONAL SOCIETY OF ARBORICHI THRE, AMERICAN HORTICHI THRAI SOCIETY OR APPROVED EQUAL) APPROVED BY THE REGIONAL LANDSCAPE ARCHITECT AND, WHERE WITHIN THE JURISDICTION OF THE NYCDPR, WITHOUT THE PERMISSION OF THE NYCDPR.

IN CASE OF A TREE REMOVAL, ALL REMNANTS INCLUDING, BUT NOT LIMITED TO STUMPS, TRUNKS, LIMBS, BRANCHES, AND FOLIAGE SHALL BE DISPOSED OF AS EXPEDITIOUSLY AS POSSIBLE, (IN ASIAN LONGHORN BEETLE QUARANTINE AREAS. RESTRICTIONS APPLY; SEE OTHER NOTES LATER IN THIS SECTION). THE COST OF DISPOSAL AS SPECIFIED ABOVE SHALL BE INCLUDED IN THE PRICE BID FOR THE RESPECTIVE TREE REMOVAL ITEMS.

- 4. "UNAUTHORIZED" TREE REMOVALS: IF THE CONTRACTOR REMOVES TREES NOT IDENTIFIED ON THE CONTRACT PLANS OR REMOVES TREES WITHIN THE JURISDICTION OF NYCDPR, AS DETERMINED BY NYSDOT, WHICH ARE NOT APPROVED BY THE BOROUGH FORESTER, OR SO SEVERELY DAMAGES TREES THAT IN THE JUDGMENT OF THE BOROUGH FORESTER THEY MUST BE REMOVED. THE CONTRACTOR SHALL PROVIDE REPLACEMENT TREES AT ITS OWN EXPENSE ACCORDING TO NYCDPR'S BASAL AREA FORMULA OR OTHER CRITERIA STATED IN THE NYCDPR PERMITS. THE FINAL LOCATION OF REPLACEMENT TREES (TO BE PLANTED IN ACCORDANCE WITH NYSDOT PLANTING SPECIFICATIONS FOR 3 INCH CALIPER TREES, UNLESS OTHERWISE SPECIFIED) SHOULD BE WITHIN THE PROJECT LIMITS AND WILL BE AS DIRECTED BY THE ENGINEER-IN-CHARGE AFTER CONSULTATION WITH THE REGIONAL LANDSCAPE ARCHITECT, (NYCDPR AND NYCDOT AS APPROPRIATE). IF PLANTING WITHIN THE PROJECT LIMITS IS NOT POSSIBLE, NYSDOT, NYCDOT AND NYCDPR WILL AGREE ON APPROPRIATE MITIGATION. ANY REPLACEMENT TREES PLANTED AS MITIGATION MUST BE WATERED, MAINTAINED AND GUARANTEED PER NYSDOT STANDARD SPECIFICATIONS AT NO COST TO THE STATE.
- 5. GENERAL PROTECTION OF EXISTING LANDSCAPE: AT ALL TIMES DURING THE COURSE OF THE PROJECT, THE CONTRACTOR SHALL AVOID OR MINIMIZE: SOIL COMPACTION, POLLUTION, FROSION AND IMPACTS TO EXISTING VEGETATION EVEN WHEN REMOVAL, SELECTIVE THINNING OR CLEARING AND GRUBBING ARE SPECIFIED IN THE CONTRACT PLANS. THE CONTRACTOR SHALL PLACE APPROVED WOOD CHIPS AND/OR GEOTEXTILE A.O.B.E. ON UNPAVED AREAS WHERE MATERIALS WILL BE STOCKPILED, TO MINIMIZE SOIL COMPACTION AND PREVENT CONTAMINATION OF EXISTING SOIL, UNDER NO CIRCUMSTANCES MAY PETROLEUM PRODUCTS, CONCRETE WASH WATER, PAINT, OR OTHER POLLUTANTS BE ALLOWED TO SEEP INTO THE LANDSCAPE OR CITY DRAINAGE SYSTEM, CONTRACTOR SHALL COMPLY WITH NYC PARKS TREE PROTECTION PROTOCOLS: HTTPS://WWW.NYCPARKS.ORG/PAGEFILES/84/STANDARD-TREE-PROTECTION-NOTES-FOR-PERMITS-AND-PLAN-REVIEW-SPRING-2015.PDF

6. LANDSCAPE MAINTENANCE DURING CONSTRUCTION: DURING THE COURSE OF THE PROJECT, THE CONTRACTOR SHALL MAINTAIN THE APPEARANCE OF THE PROJECT SITE BY REMOVING LITTER, DEBRIS AND EXCESS MATERIALS AS A RESULT OF THE CONSTRUCTION OPERATION FROM THE WORK SITE ON A REGULAR BASIS AND STORING ALL CONSTRUCTION EQUIPMENT AND CONSTRUCTION MATERIAL IN AN ORGANIZED FASHION THROUGHOUT THE CONSTRUCTION PERIOD. THIS WILL DETER ILLEGAL DUMPING AND ENCOURAGE THE PUBLIC TO RESPECT THE PROJECT AND THE REST OF THE ROADWAY.

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ALL AREAS INACCESSIBLE TO AGENCIES' MAINTENANCE FORCES MUST BE KEPT AS CLEAN AS POSSIBLE BY THE CONTRACTOR, THE EIC WILL CONSULT WITH THE CONTRACTOR AND NYCDOT TO DETERMINE AND AGREE UPON THE LIMITS OF SUCH AREAS, ADDITIONALLY, ANY VEGETATION REQUIRING MAINTENANCE SUCH AS MOWING OF GRASS WILL BE MAINTAINED TO THE STANDARD OCCURRING ON THE REMAINDER OF THE ROADWAY AS ORDERED BY THE ENGINEER-IN-CHARGE. UNLESS OTHERWISE SPECIFIED, MOWING SHALL BE DONE AT THE RATE AND TIME TYPICALLY DONE BY NYCDOT ARTERIAL MAINTENANCE FOR THE GIVEN ROAD, WEATHER CONDITIONS AND TIME OF YEAR (AVERAGE IS ONCE EVERY 3 WEEKS, MAY THROUGH OCTOBER). IF NO ITEM IS SPECIFIED, NO SEPARATE PAYMENT WILL BE MADE. CLEANING AND OTHER MAINTENANCE TASKS MUST BE COORDINATED REGULARLY THROUGH THE EIC WITH APPROPRIATE AGENCIES TO PROVIDE UNINTERRUPTED MAINTENANCE THROUGHOUT THE PROJECT.

- 7. RESTORATION OF LANDSCAPE/ TOPSOIL SPECIFICATION: ALL EXCESS MATERIALS AND DEBRIS DUE TO THE CONTRACTORS OPERATION SHALL BE REMOVED BY THE CONTRACTOR, AS PART OF THE SITE RESTORATION AT NO COST TO THE STATE. ALL SOIL DIMINISHED AND/OR CONTAMINATED WITH EXCESS MATERIAL AND DEBRIS. AS DETERMINED BY THE EIC IN CONSULTATION WITH THE REGIONAL LANDSCAPE ARCHITECT AND OTHER AGENCIES HAVING JURISDICTION, SHALL ALSO BE REMOVED AS NECESSARY TO CLEAN SOIL AND SHALL BE REPLACED WITH SUFFICIENT TOPSOIL MEETING WITH THE NYSDOT STANDARD SPECIFICATION SECTION 713 (ITEM 610.1403, "TOP SOIL - LAWNS" UNLESS OTHERWISE SPECIFIED) ALSO AT NO COST TO THE STATE. IF IT IS DETERMINED BY THE EIC IN CONSULTATION WITH THE RLA THAT THE SOIL HAS BEEN COMPACTED DURING THE COURSE OF THE PROJECT, IT WILL BE UNCOMPACTED AND LOOSENED TO THE DEPTH OF 12 INCHES PRIOR TO GRASS SEEDING OR OTHER RESTORATION AT NO COST TO THE STATE. DECOMPACTION WITHIN THE DRIPLINE OF EXISTING TREES MUST BE DONE BY HAND USING ONLY LIGHT EQUIPMENT SUCH AS AN AIRSPADE OR OTHER METHOD. APPROVED BY THE RLA. WHICH WILL MINIMIZE DAMAGE TO TREE ROOTS. UNDER NO CIRCUMSTANCES MAY HEAVY EQUIPMENT (I.E. PAYLOADERS) BE USED TO ACCOMPLISH SITE RESTORATION WITHIN THE DRIPLINE OF TREES.
- 8. STOCKPILE OF "OFFENSIVE" MATERIAL: IF, DURING THE COURSE OF THE CONTRACT, THE CONTRACTOR NEEDS TO STOCKPILE ANY CONSTRUCTION MATERIAL WITHIN THE WORK ZONE WHICH IN THE OPINION OF THE ENGINEER-IN-CHARGE, MAY BE OFFENSIVE IN NATURE TO "SENSITIVE RECEPTORS" (E.G.: HOMES, PUBLIC PLACES, HOSPITALS, OR SCHOOLS) BECAUSE OF APPEARANCE, ODOR, POTENTIAL FOR ATRBORNE DISBURSEMENT OR HAZARDOUS NATURE. THE CONTRACTOR MUST OBTAIN PERMISSION FROM THE ENGINEER-IN-CHARGE PRIOR TO PLACING THE STOCKPILE. AS A GUIDELINE, NO SUCH STOCKPILING WOULD NORMALLY BE PERMITTED WITHIN 200 FEET OF ANY SENSITIVE RECEPTOR. THE CONTRACTOR SHOULD ALSO NOTE
 - * THE STOCKPILE SITE SHALL NOT BE USED FOR STORING/DUMPING DEBRIS FROM CONTRACTORS OTHER PROJECTS.
 - * NEW YORK CITY DEPARTMENT OF SANITATION MUST BE CONTACTED FOR ISSUANCE OF A PERMIT ON ANY PROJECT IF THE CONTRACTOR WANTS TO STORE MATERIALS OUTSIDE THE STATE RIGHT-OF-WAY.

9. ASIAN LONGHORN BEETLE: IF WORKING WITHIN AREAS UNDER REGULATION PURSUANT TO 1 NYCRR PART 139 "CONTROL OF THE ASIAN LONG HORNED BEETLE", THE CONTRACTOR, IN HANDLING HOST MATERIAL LIVING, DEAD, CUT OR FALLEN, INCLUSIVE OF NURSERY STOCK, LOGS, GREEN LUMBER, STUMPS, ROOTS, BRANCHES AND DEBRIS OF A HALF INCH OR MORE IN DIAMETER, SHALL COMPLY WITH ALL REQUIREMENTS OF PART 139 INCLUDING "CERTIFICATION", MEANING: THE CONTRACTOR SHALL OBTAIN ALL NECESSARY TRAINING AND EXECUTE A "COMPLIANCE AGREEMENT" WITH THE N.Y.S. DEPARTMENT OF AGRICULTURE AND MARKETS. THE CONTRACTOR SHALL PROVIDE NYSDOT WITH AN ORIGINAL COPY OF THE FULLY EXECUTED AGREEMENT AND SHALL DISPLAY THE ISSUED IDENTIFICATION STICKERS ON ALL VEHICLES INVOLVED WITH TREE WORK WITHIN THE QUARANTINE AREAS. IN ALL OTHER WORK ZONES, CONTRACTORS ARE ALERTED TO THE POSSIBILITY OF ENCOUNTERING THE ASIAN LONG-HORNED BETTLE AND ARE REQUESTED, IF BEETLES ARE OBSERVED OR SUSPECTED OF BEING PRESENT, TO CONTACT: N.Y.S. DEPARTMENT OF AGRICULTURE AND MARKETS DIVISION OF PLANT INDUSTRY, 4 STEWART AVENUE, WESTHAMPTON BEACH, NY 11978-1103, PHONE: 631-288-1751 OR 800-554-4501 EXT. 72087.

MORE INFORMATION ABOUT THE BEETLE AND QUARANTINE LIMITS CAN BE FOUND AT:

HTTP://WWW.AGMKT.STATE.NY.US/PI/ALB.HTML HTTP://WWW.DEC.NY.GOV/ANIMALS/7255.HTML

10. EMERALD ASH BORER: IF WORKING WITHIN AREAS UNDER REGULATION PURSUANT TO 1 NYCRR PART 141 "CONTROL OF THE EMERALD ASH BORER". THE CONTRACTOR, IN HANDLING HOST MATERIAL LIVING, DEAD, CUT OR FALLEN, INCLUSIVE OF NURSERY STOCK, LOGS, GREEN LUMBER, STUMPS, ROOTS, BRANCHES AND DEBRIS, SHALL COMPLY WITH ALL REQUIREMENTS OF PART 141 INCLUDING "CERTIFICATION", MEANING: THE CONTRACTOR SHALL OBTAIN ALL NECESSARY TRAINING AND EXECUTE A "COMPLIANCE AGREEMENT" WITH THE N.Y.S. DEPARTMENT OF AGRICULTURE AND MARKETS. THE CONTRACTOR SHALL PROVIDE NYSDOT WITH AN ORIGINAL COPY OF THE FULLY EXECUTED AGREEMENT AND SHALL DISPLAY THE ISSUED IDENTIFICATION STICKERS ON ALL VEHICLES INVOLVED WITH TREE WORK WITHIN THE QUARANTINE AREAS.

IN ALL OTHER WORK ZONES, CONTRACTORS ARE ALERTED TO THE POSSIBILITY OF ENCOUNTERING THE EMERALD ASH BORER AND ARE REQUESTED, IF BEETLES ARE OBSERVED OR SUSPECTED OF BEING PRESENT, TO CONTACT: N.Y.S. DEPARTMENT OF AGRICULTURE AND MARKETS DIVISION OF PLANT INDUSTRY, 4 STEWART AVENUE, WESTHAMPTON BEACH, NY 11978-1103 PHONE: 631-288-1751 OR 800-554-4501

MORE INFORMATION ABOUT THE BEETLE AND QUARANTINE LIMITS CAN BE FOUND AT:

HTTP://WWW.AGMKT.STATE.NY.US/PI/EAB.HTML HTTP://WWW.DEC.NY.GOV/ANIMALS/7253.HTML

11. GOLDEN NEMATODE: THE CONTRACTORS ATTENTION IS DIRECTED TO THE RESTRICTIONS AND PERMIT REQUIREMENTS DEFINED IN 1 NYCRR PART 127 "GOLDEN NEMATODE" MADE PURSUANT TO NEW YORK STATE DEPARTMENT OF AGRICULTURE LAW REGULATING THE MOVEMENT OF TOPSOIL. SOD. HAY/STRAW. EQUIPMENT AND OTHER MATERIALS OUT OF NASSAU AND SUFFOLK COUNTIES AND OTHER QUARANTINED AND/OR REGULATED AREAS.

DETAILED INSTRUCTIONS AND ASSISTANCE RELATIVE TO THE ABOVE QUARANTINES MAY BE OBTAINED FROM THE SENIOR HORTICULTURAL INSPECTOR AT: ANIMAL AND PLANT HEALTH INSPECTION SERVICE, DEPARTMENT OF AGRICULTURE, 4 STEWART ROAD, WESTHAMPTON BEACH, NY 11978, PHONE: 631-288-4191.

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS: HUNTS POINT INTERSTATE ACCESS IMPROVEMENT PROJECT PIN X731.65 BRIDGES **CUL VERTS** ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED CONTRACT 3 DIRECTIVE PLANS FROM BARRETTO ST. TO WHITLOCK AVE. AND SHERIDAN BLVD. LANDSCAPE PROTECTION NOTES DRAWING NO. LN-01 SHEET NO. COUNTY: THE BRONX REGION: 1

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



CONTRACT NUMBER D900055

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HUNTS POINT , 2018 9:37:14 12. SPOTTED LANTERNFLY: THE CONTRACTORS ATTENTION IS DIRECTED TO THE RESTRICTIONS AND QUARANTINE OF SPOTTED LANTERNFLY. MORE INFORMATION CAN BE FOUND AT:

HTTPS://AGRICULTURE.NY.GOV/NEWS/NEW-YORK-STATE-IMPLEMENTS-NEW-ACTIONS-PREVENT-SPREAD-SPOTTED-LANTERNFLY-NEW-YORK-STATE
HTTPS://WWW.NYCGOVPARKS.ORG/TREES/SPOTTED-LANTERNFLY-INFESTATION*: :TEXT
=SPOTTED%20LANTERN%20LYCORMA%20DELICATULA%E2%80%93SLF,THREAT%20T0%20
OUR%20CITY'S%20FORFSTS

- 13. THE CONTRACTOR SHALL HIRE A CERTIFIED ARBORIST TO PERFORM DUTIES AS DESCRIBED HEREIN. THE ARBORIST SHALL ACT AT THE CONTRACTOR'S REPRESENTATIVE IN FULFILLING THE TASKS DESCRIBED BELOW AND TO ENSURE THE CONTRACTOR'S COMPLIANCE TO ALL APPLICABLE REQUIREMENTS OF THE LANDSCAPE PLANS AND SPECIFICATIONS, AND TO MINIMIZE THE IMPACT TO THE EXISTING LANDSCAPING DUE TO CONSTRUCTION ACTIVITIES. ALL WORK SHALL BE PERFORMED IN CONSULTATION WITH THE ENGINEER AND THE REGIONAL LANDSCAPE ARCHITECT. PAYMENT FOR THE SERVICES OF THE ARBORIST SHALL BE INCLUDED UNDER RELATED CONTRACT ITEMS. NO SEPARATE PAYMENT WILL BE MADE FOR SUPPLYING THE ARBORIST. THE PROPOSED SCOPE OF DUTIES AND RESPONSIBILITIES FOR THE CERTIFIED ARBORIST DURING THE PROJECT'S CONSTRUCTION PHASE SHALL INCLUDE:
 - 1). SUPERVISE INSTALLATION OF VEGETATION PROTECTION BARRIERS AND OTHER SAFEGUARDS TO VEGETATION PER CONTRACT.
 - 2). CONSULT WITH THE ENGINEER AND CONTRACTOR TO INCLUDE ANY MODIFICATIONS TO PROTECTION LIMITS AND OTHER SAFEGUARDS, AND TREE CARE TASKS. DOCUMENT CHANGES TO CONTRACT LIMITS AND REQUIREMENTS.
 - 3). PROVIDE RECOMMENDATIONS FOR MITIGATIONS FROM IMPACTS TO TREES GENERATED BY ANY MODIFICATIONS TO CONTRACT VEGETATION PROTECTION LIMITS.
 - 4). PROVIDE MONTHLY INSPECTION AND REPORTS OF VEGETATION AND PROTECTION MEASURES, AND WHEN REQUESTED BY THE ENGINEER BE AVAILABLE FOR MEETINGS/ INSPECTIONS OF PROJECT. AS REQUIRED, WITHIN 72 HOUR NOTICE.
 - DIRECTLY SUPERVISE ALL WORK PERFORMED ON TREES OR IN AND ON THE SOIL UNDER TREE CANOPIES.
 - TASKS ARE TO BE CONTINUED DURING PLANTING AND PERIOD OF ESTABLISHMENT, AND SHALL INCLUDE REPORT AND SUPERVISION ON THOSE TASKS.

TREE PROTECTION BARRIER

DIMENSIONS, OFFSET, AND LENGTH OF THE TEMPORARY BARRIER AROUND THE WORK AREAS ARE DETAILED AS INDICATED BELOW:

1). UNLESS OTHERWISE SHOWN THE STANDARD OFFSET BETWEEN THE CURB AND RARRIER IS 7 FT.

2). CHANGES IN OFFSET AS INDICATED BY THE LEADERS AND A DIMENSION SHOWING THE OFFSET IN FFET.

WORKING WITHIN DRIPLINE OF EXISTING TREE

- TREATMENT OF TREE ROOTS NO ROOTS OVER ONE (1) INCH DIAMETER SHOULD BE SHAVED OR CUT WITHOUT THE PERMISSION OF ARBORIST. IF SMALL ROOTS MUST BE CUT THIS SHOULD BE DONE WITH A SHARP IMPLEMENT TO LEAVE A CLEAN FINISH. USE OF HEAVY EQUIPMENT SUCH AS A BACKHOE TO CUT ROOTS IS PROHIBITED.
- 2. PRUNING ALL CONTACT BETWEEN EQUIPMENT AND OVERHEAD TREE LIMBS SHOULD BE AVOIDED. BENDING OR BREAKAGE OF LIMBS IS PROHIBITED. IF CLEARANCE PRUNING IS PROPOSED, IT SHALL NOT TAKE PLACE WITHOUT THE PERMISSION OF THE ARBORIST, AND SHALL ONLY BE PERFORMED WITH PROFESSIONAL EQUIPMENT AS PER PARKS STANDARDS AND SPECIFICATIONS FOR SUCH WORK. NO TREES SHALL BE PRUNED OR REMOVED WITHOUT THE PERMISSION OF THE ARBORIST. TREE WORK IS TO BE PERFORMED BY AN ARBORIST HOLDING CERTIFICATION FROM THE INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA), PARKS IS TO RECEIVE NOTIFICATION 48 HOURS BEFORE ANY TREE WORK IS TO BEGIN.
- 3. REMOVAL OF EXISTING INFRASTRUCTURE EXTREME CARE MUST BE EXERCISED IN REMOVING CONCRETE OR ASPHALT WITHIN THE DRIP LINE OF EXISTING TREES, LIFTING RATHER THAN DRAGGING PAVING PIECES. TOOLS AND EQUIPMENT FOR THIS ACTIVITY SHALL BE APPROVED BY THE ARBORIST PRIOR TO THE START OF EXCAVATION.
- METHODS OF EXCAVATION ANY EXCAVATION FOR UTILITY OR INFRASTRUCTURE INSTALLATION WITHIN THE DRIP LINE OF AN EXISTING TREE SHALL BE DONE BY HAND OR PNEUMATIC EXCAVATION, OR MICRO TUNNELING. TRENCHING SHALL NOT OCCUR WITHIN THE DRIP LINE UNLESS ABSOLUTELY NECESSARY AND WITHOUT PRIOR APPROVAL BY THE ARRORIST.
- FOR THE REMOVAL OF EXPOSED ROOTS WHERE SUCH EXCAVATION DOES OCCUR
 FOR THE REMOVAL OF EXISTING FEATURES OR THE INSTALLATION OF
 NEW WORK, THE EXCAVATED AREA SHALL BE BACKFILLED IMMEDIATELY.
 EXPOSED ROOTS SHALL BE COVERED WITH BURLAP OR OTHER APPROVED
 MATERIAL, AND KEPT CONSTANTLY MOIST. BURLAP SHALL BE CHECKED A
 MINIMUM OF TWO (2) TIMES A DAY, ONCE IN THE MORNING AND ONCE IN
 THE AFTERNOON IN ORDER TO MAINTAIN APPROPRIATE LEVELS OF
 MOISTURE, UNTIL BACKFILL IS COMPLETE. IF DIRECTED, SOAKER HOSES
 SHALL BE INSTALLED TO FACILITATE PROPERLY MOIST CONDITIONS OF
 EXCAVATED AREAS.
- 6. GRADE REDUCTION MANY TREE ROOTS OCCUR WITHIN THE TOP SIX TO EIGHT INCHES OF THE SOIL. SOIL REMOVAL CAN RESULT IN THE LOSS OF TREE ROOTS. SOIL REMOVAL WITHIN THE TREE PROTECTION ZONE IS PROHIBITED WITHOUT THE APPROVAL OF THE ARBORIST. SOIL REMOVAL METHODS IN THESE ZONES ARE TO BE DETERMINED BY THE ARBORIST. ANY REMOVAL OF SOIL WITHIN THE DRIP LINE SHALL BE PERFORMED UNDER THE SUPERVISION OF AN ARBORIST.
- 7. GRADE INCREASE THE ADDITION OF SOIL CAN SMOTHER TREE ROOTS, BY REDUCING THE AMOUNT OF WATER AND OXYGEN REACHING THE SOIL AREA WHERE ROOTS OCCUR. FILL OF UP TO THREE (3) INCHES ADDITIONAL DEPTH MAY BE PERMITTED. FILL EXCEEDING THREE INCHES SHALL NOT OCCUR WITHOUT THE PRIOR INSTALLATION OF AN AERATION SYSTEM OR OTHER DETAIL APPROVED BY THE ARBORIST.

ITEM 206.04010011 PNEUMATIC EXCAVATION AND BACKFILL OF TRENCHES & ITEM 206.04020011 PNEUMATIC EXCAVATION AND BACKFILL OF TEST PITS (WHEN REQUIRED BY THE ENGINEER OR ARBORIST)

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- ALL WORK TO BE PERFORMED UNDER DIRECT SUPERVISION OF ARBORIST.
 ALL WORK LIMITS TO BE DETERMINED IN FIELD BY ARBORIST.
- NO STAGING OR STORAGE OF EQUIPMENT OR MATERIALS SHALL OCCUR WITHIN THE TREE/LANDSCAPE PROTECTION ZONE OF THE PROJECT.
- TREE/LANDSCAPE PROTECTION FENCING SHALL BE RETURNED TO ITS APPROVED, STAKED LOCATION UPON COMPLETION OF RADIAL TRENCHING PROCEDURES.
- 4. AIR-SPADE SHALL BE OPERATED BY ONLY PERSONNEL HAVING MORE THAN 1 YEAR OF EXPERIENCE OPERATING THE AIR-SPADE FOR ARBORICULTURAL PURPOSES SUCH AS ROOT COLLAR EXCAVATIONS AND ROOT INVIGORATION TECHNIQUES.
- FOR DUST CONTROL; WORK AREA TO BE WATERED AT LEAST 24 HOURS IN ADVANCE OF BUT NO MORE THAN 48 HOURS PRIOR TO THE START OF ANY PNEUMATIC EXCAVATION. SEE ITEM 206.04010011 FOR DUST CONTROL MEASURES.
- 6. WATER TRUCK TO BE PRESENT ON SITE DURING ALL RADIAL TRENCHING AND BACKFILL PROCEDURES. IRRIGATE ENTIRE ROOT ZONE TO FULL DEPTH OF TREATMENT. CONTRACTOR TO PROVIDE CONTAINMENT STRUCTURE OR BARRIER TO CONTAIN SOIL PER ITEM 206.04010011.
- IF RECAPTURE OF EXCAVATED SOIL IS LESS THAN 50% FOR THE BACKFILL OF TRENCHES, THE DIFFERENCE SHALL BE MADE UP WITH ADDITIONAL TOPSOIL. ITEM 610.1402 TOPSOIL - ROADSIDE.
- 8. IF RECAPTURE OF EXCAVATED SOIL IS MORE THAN 50% FOR THE BACKFILL OF TRENCHES, THE EXCESS SOIL SHALL BE REMOVED FROM THE SITE OR REUSED AS DIRECTED BY THE REGIONAL LANDSCAPE ARCHITECT.

REMOVE AND RESET GRANITE PAVERS

- DESIGN-BUILDER SHALL CAREFULLY REMOVE AND RESET EXISTING GRANITE PAVERS IN ACCORDANCE WITH PLANS.
- 2. ALL GRANITE PAVERS SHALL BE REMOVED AND HANDLED WITH EXTREME CARE TO AVOID BREAKAGE. ANY PAVERS WHICH ARE BROKEN OR DAMAGED BY THE DESIGN-BUILDER'S OPERATIONS SHALL BE REPLACED OR REPAIRED AT HIS OWN EXPENSE. THE CONTRACTOR SHALL DISPOSE OF AND REMOVE FROM SITE BADLY DAMAGED PAVERS ONLY WHEN ORDERED BY ENGINEER.
- 3. WHERE PAVERS ARE TO BE RESET IN SAME LOCATION, THEY ARE TO BE STORED UNTIL RESETTING, DESIGN-BUILDER SHALL BE COMPLETELY RESPONSIBLE FOR THE DISPOSITION OF EXISTING PAVERS AND SHALL REPLACE ALL PAVERS THAT ARE LOST, STOLEN OR DAMAGED DURING STORAGE AT HIS OWN EXPENSE.
- 4. PAVERS SHALL BE LAID ON A SAND BASE OF A MINIMUM THICKNESS OF ONE (1) INCH. BASE SAND SHALL CONSIST OF CLEAN, HARD, DURABLE UNCOATED STONE PARTICLES, FREE FROM LUMPS OF CLAY AND ALL DELETERIOUS SUBSTANCES AND SHALL BE SO GRADED THAT WHEN DRY, ONE HUNDRED PERCENT SHALL PASS ↓ INCH SQUARE OPENING SIEVE; NO MORE THAN THIRTY-FIVE (35) PERCENT BY WEIGHT SHALL PASS A NO. 50 SIEVE. CUSHION SAND SHALL NOT CONTAIN MORE THAN TEN (10) PERCENT WEIGHT OF LOAM AND SILT. THE SAND BASE SHALL BE COMPACTED BY BEING ROLLED WITH A ROLLER WEIGHING 150LBS PER FOOT OF WIDTH.
- 5. AFTER SUFFICIENT AREA OF PAVERS HAS BEEN LAID, THE SURFACE SHALL BE TESTED WITH A TEN FOOT STRAIGHT EDGE LAID PARALLEL WITH THE CENTER LINE AND ANY DEPRESSION EXCEEDING & INCH SHALL BE CORRECTED AND BROUGHT TO PROPER GRADE. ALL PAVERS DISTURBED IN MAKING REPLACEMENTS OR CORRECTING DEPRESSIONS SHALL BE SETTLED INTO PLACE BY CAREFULLY RAMMING OR TAMPING TO GRADE BY USE OF A HAND TAMPER APPLIED UPON A TWO-INCH BOARD.
- 6. JOINTS SHALL BE COMPLETELY FILLED WITH A CEMENT GROUT MIXTURE OF ONE PART PORTLAND CEMENT AND TWO PARTS SAND. THE GROUT SHALL BE FIRMLY PACKED IN THE JOINTS BETWEEN PAVERS. IMMEDIATELY AFTER JOINTS ARE FILLED, THE PAVEMENT SHALL BE SWEPT CLEAN. THE FINISHED SURFACE SHALL BE FREE OF ALL CEMENT STAIN AND EXCESS GROUT.
- 7. THE QUANTITY OF REMOVE AND RESET GRANITE PAVERS SHALL BE: 24,220 SF EXISTING GRANITE PAVERS ON SITE 9,000 SF SHALL BE REMOVED AND RESET

	ON:	ON:
ı		

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

HUNTS POINT INTERSTATE ACCESS IMPROVEMENT PROJECT

CONTRACT 3

FROM BARRETTO ST. TO WHITLOCK AVE. AND SHERIDAN BLVD.

COUNTY: THE BRONX REGION

PIN X731.65

BRIDGES

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

DIRECTIVE PLANS

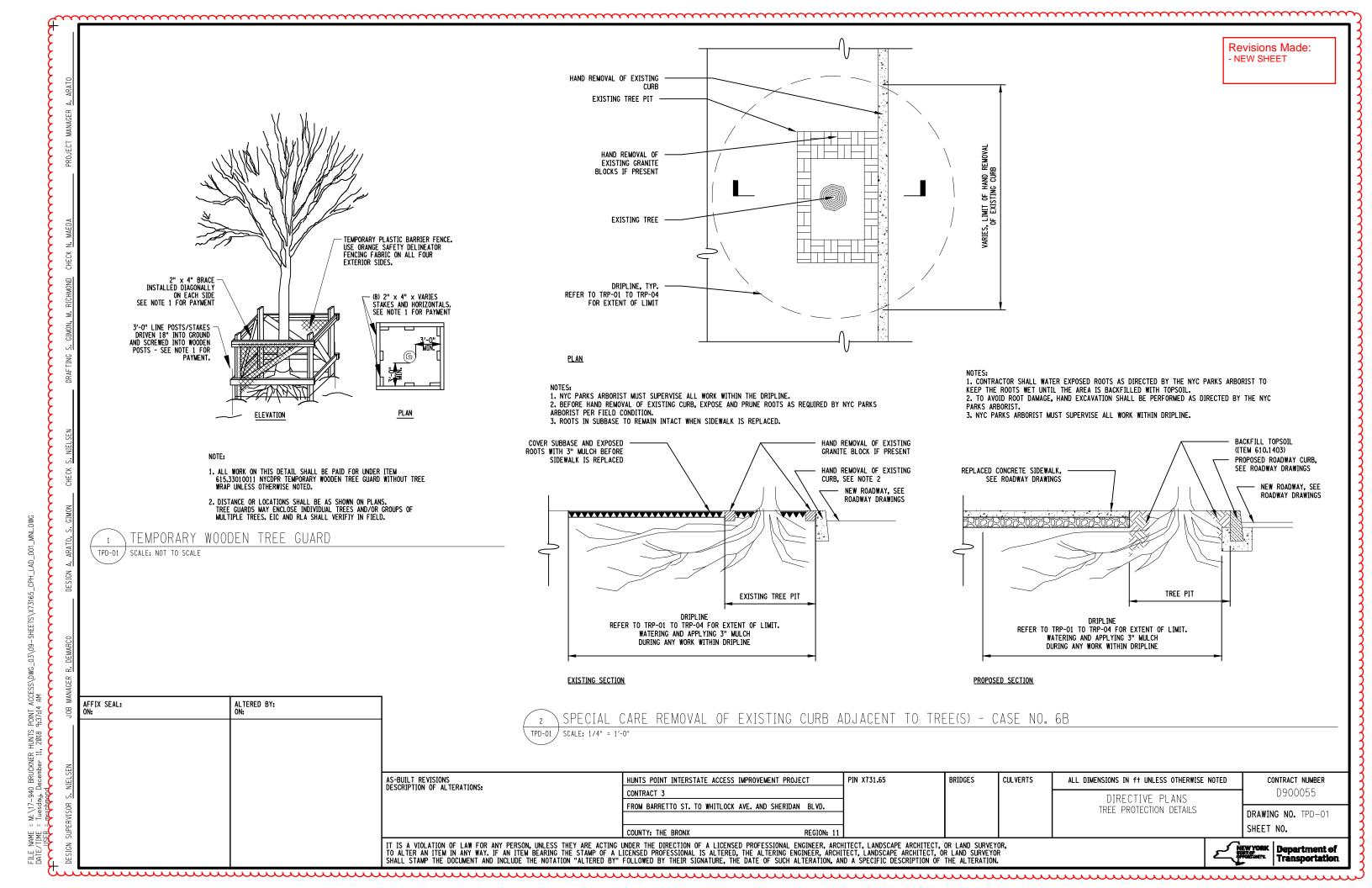
LANDSCAPE PROTECTION NOTES

CONTRACT NUMBER
D900055

DRAWING NO. LN-02 SHEET NO.

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HUNTS POINT , 2018 9:37:14

1. PROOF OF PLANT IDENTITY

ALL TREES SHALL ARRIVE LABELED AND BE TRUE TO SPECIES OR CULTIVAR. THE NURSERY LABEL MUST DISPLAY THE BOTANICAL NAME INCLUDING CULTIVAR OR VARIETY. IF APPROPRIATE.

2. HEALTH

ALL TREES SHALL BE HEALTHY, SOUND, VIGOROUS, ACCLIMATED, FREE FROM CANOPY DIE-BACK, DISFIGURING KNOTS, CRACKS, SUN-SCALD INJURY, ABRASIONS OF THE BARK, OPEN WOUNDS (NOT INCLUDING PROPER PRUNING CUTS), DISEASE AND INSECTS. ALL FIELD-GROWN TREES MUST BE DELIVERED IN A DORMANT STATE. EVERGREEN CONIFERS MAY NOT HAVE AN ABNORMAL PERCENTAGE OF DEAD NEEDLES, DEAD OR BARE BRANCHES. TERMINAL BUDS MUST BE ALIVE, AND SHOW NO SIGN OF DAMAGE OR DESICCATION. IF CONTAINER GROWN, LEAVES MAY NOT SHOW SIGNS OF CHLOROSIS OR NECROSIS ON MORE THAN 5% OF THE CANOPY, LEAVES MUST BE OF NORMAL SIZE FOR THE TIME OF YEAR, TYPE AND AGE OF SIMILAR CONTAINER-GROWN TREES.

3. STRUCTURE

THE CANOPY SHALL BE OF NATURAL FORM AND FULL FOR ITS TYPE, WITH NO REPEATED SHEARING OR HEADING BACK EVIDENT. UNLESS SPECIFIED AS MULTI-STEM, ALL TREES SHALL HAVE A SINGLE STEM AND A DOMINANT LEADER THROUGH THE CROWN. NO TRUNK OR BRANCH CAN HAVE A DIAMETER GREATER THAN 2/3 THE TRUNK DIAMETER MEASURED DIRECTLY ABOVE THE BRANCH CROTCH. THERE MAY BE NO INCLUDED BARK BETWEEN THE TRUNK AND A MAJOR LATERAL BRANCH OR BETWEEN TWO TRUNKS. THERE MAY BE NO FLUSH CUTS OR BRANCH STUBS BEYOND THE BRANCH COLLAR. TRUNKS AND/OR MAJOR BRANCHES MAY NOT TOUCH. UNLESS OTHERWISE SPECIFIED, NO MORE THAN 40% OF THE LOWER TRUNK MAY BE FREE OF BRANCHES. IF THE TRUNK IS GREATER THAN 1" IN CALIPER, MEASURED 6" ABOVE GROUND LEVEL, IT MUST BE SELF - SUPPORTING WITHOUT STAKES.

4. ROOT BALL

THE ROOT BALL MUST MEET MINIMUM SIZE REQUIREMENTS BASED ON THE TREE TRUNK CALIPER MEASURED 6" ABOVE GROUND LEVEL.

B&B ROOT BALLS MUST BE SYMMETRICAL AND CONSTRUCTED WITH NATURAL, BIODEGRADABLE BURLAP TIGHTLY SECURED WITH PINS, WIRE OR BIODEGRADABLE TWINE, THE BALL MUST BE SOLID AND MUST ALSO BE FIRMLY ATTACHED TO THE TRUNK WITH NO MOVEMENT EVIDENT. THE BALL MUST BE CONSTRUCTED SO THE ROOT FLARE IS AT OR SLIGHTLY ABOVE THE TOP OF THE BALL. THERE MAY BE NO CIRCLING ROOTS AT THE TOP OF THE BALL. FOR CONTAINER-GROWN STOCK, TREES MUST BE ESTABLISHED IN THE CONTAINER WITH ROOTS OCCUPYING THE VOLUME OF GROWING MEDIUM. THERE MAY BE NO ROOTS CIRCLING MORE THAN 1 / 3 AROUND THE TRUNK, OR EVIDENCE OF ROOTS GROWING OUT OF THE CONTAINER LARGER THAN 1 / 5 OF THE TRUNK WIDTH. CONTAINER-GROWN STOCK MAY NOT BE POT-BOUND WITH EXCESSIVE ROOTS ENCIRCLING THE INSIDE OF THE CONTAINER.

5. TRANSPORTATION/DELIVERY

TREES SHALL BE HANDLED, PACKED AND TRANSPORTED IN SUCH A MANNER AS TO INSURE ADEQUATE PROTECTION FROM INJURY, TREES MAY NOT BE LIFTED BY THEIR TRUNK, TARPAULINS OR OTHER COVERS SHALL BE PLACED OVER PLANTS TRANSPORTED BY OPEN TRUCKS OR FREIGHT CARS. AT THE TIME OF DELIVERY, TRUNK WRAP, IF USED, MUST BE REMOVED TO ALLOW FOR INSPECTION OF THE TRUNK, ROOT BALLS MUST BE MOIST. SHIPPER MUST NOTIFY EIC AT LEAST TWO FULL WORKING DAYS IN ADVANCE OF DELIVERY, NYSDOT RESERVES THE RIGHT TO REFUSE ANY PLANTS THAT DO NOT MEET THE ABOVE CRITERIA.

AFFIX SEAL: ON: ALTERED BY: ON:

PLANTING NOTES CON'D

6. <u>LOCATIONS</u>

THE CONTRACTOR SHALL CONDUCT TEST PITS PRIOR TO THE INSTALLATION OF PROPOSED TREES TO IDENTIFY UTILITY CONFLICTS. THE LOCATIONS OF PROPOSED TREES SHOWN ON THE PLANS ARE APPROXIMATE. LOCATION MAY CHANGE BASED ON EXISTING UTILITY CONFLICTS. ALL SHRUB BEDS SHALL BE LAID OUT IN THE FIELD, AS SHOWN IN THE PLANS USING A LEAD-FREE, WATER-BASED MARKING PAINT. SHRUB BEDS SHALL BE VERIFIED IN THE FIELD.

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7. PLANTING WITHIN DRIP LINE OF EXISTING TREES

ALL EXCAVATION AND PLANT INSTALLATION WITHIN DRIP LINE OF EXISTING TREES IS TO BE DONE BY HAND, WITH MINIMAL SOIL DISTURBANCE. NO ROOTS OVER 1-INCH IN DIAMETER SHALL BE SHAVED OR CUT WITHOUT THE APPROVAL OF THE ARBORIST. PLANTS SHALL NOT BE PLACED WITHIN THREE (3) FEET OF THE TREE TRUNK OF EXISTING TREES.

8. PLANTING ADJACENT TO PROPOSED TREES

PLANTS SHALL NOT BE PLACED WITHIN TWO (2) FEET OF THE TREE TRUNK OF NEWLY PLANTED TREES.

LANDSCAPE CONTRACTOR & SITE INSPECTIONS

9. SITE INSPECTIONS

DURING THE INSTALLATION AND MAINTENANCE PERIOD OF THE CONTRACT, THE REGIONAL LANDSCAPE ARCHITECT, ALONG WITH THE CONTRACTOR, SHALL PERFORM BIMEEKLY DRIVE AND WALK- THROUGH SITE INSPECTIONS OF THE AREA OF LANDSCAPE WORK, ACCOMPANIED BY THE ENGINEER, IDENTIFYING THE STATUS OF THE WORK, ISSUES OR PROBLEMS REQUIRING IMMEDIATE ACTION BY THE CONTRACTOR OR ITEMS AFFECTING THE CONTRACTOR'S WORK.

10. WITHIN 48 HOURS OF EACH SITE INSPECTION, THE CONTRACTOR SHALL SUBMIT A REPORT LISTING INDIVIDUALS WHO ATTENDED THE SITE INSPECTION, THE ITEM(S) DISCUSSED, A BRIEF DESCRIPTION OF THE ISSUES OR PROBLEMS FOUND AND RECOMMENDATIONS FOR SOLUTIONS TO BE IMPLEMENTED BY THE CONTRACTOR AND A SCHEDULE DESIGNATING DATES WHEN THE CONTRACTOR WILL IMPLEMENT SAID WORK.

WEED & INVASIVE PLANT REMOVAL

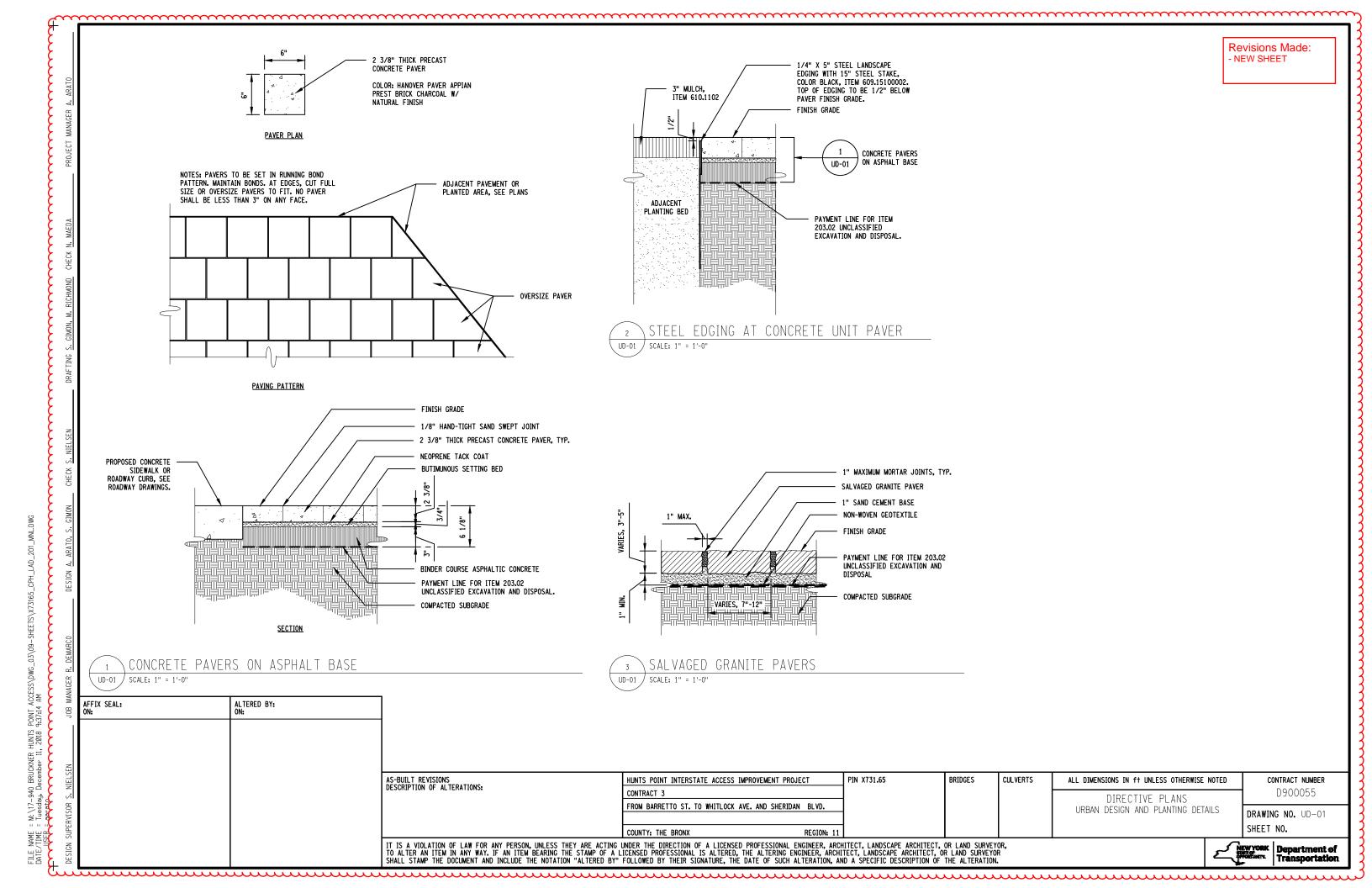
- 11. IF PLANTING IS DELAYED FOLLOWING PLACEMENT OF TOPSOIL AND WEEDS EMERGE IN THE TOPSOIL PRIOR TO PLANTINGS, THE CONTRACTOR SHALL REMOVE WEEDS AND UNDESIRABLE VEGETATION IN THE AREAS AS REQUIRED AS DIRECTED BY THE EIC AT THE CONTRACTOR'S OWN EXPENSE.
- 12. EXISTING INVASIVE PLANT COMMUNITIES SHALL BE CONTROLLED AND ERADICATED BEFORE NEW PLANTING CAN BEGIN. REMOVE ALL PARTS OF THE INVASIVE PLANT, INCLUDING ITS ROOTS, AND EITHER REMOVE OR DO NOT DISTURB THE SEED BANK STORED IN THE SOIL. BASED ON THE INVASIVE SPECIES PRESENT ON SITE, DETERMINE THE APPROPRIATE WEED REMOVAL MEASURES TO ENSURE INVASIVE PLANT COMMUNITIES HAVE BEEN ERADICATED BEFORE NEW SEED IS LAID AND CONTAINER PLANTS ARE INSTALLED.
- 13. WITHIN THE EXISTING DRIP LINE OF THE EXISTING TREE, ALL WEED AND INVASIVE PLANT REMOVAL MEASURE TO BE COMPLETED BY HAND TO REDUCE DISTURBANCE OF EXISTING TREE ROOTS. NO ROOTS OF OVER 1 INCH IN DIAMETER SHALL BE SHAVED OR CUT WITHOUT THE APPROVAL OF THE APPORIST

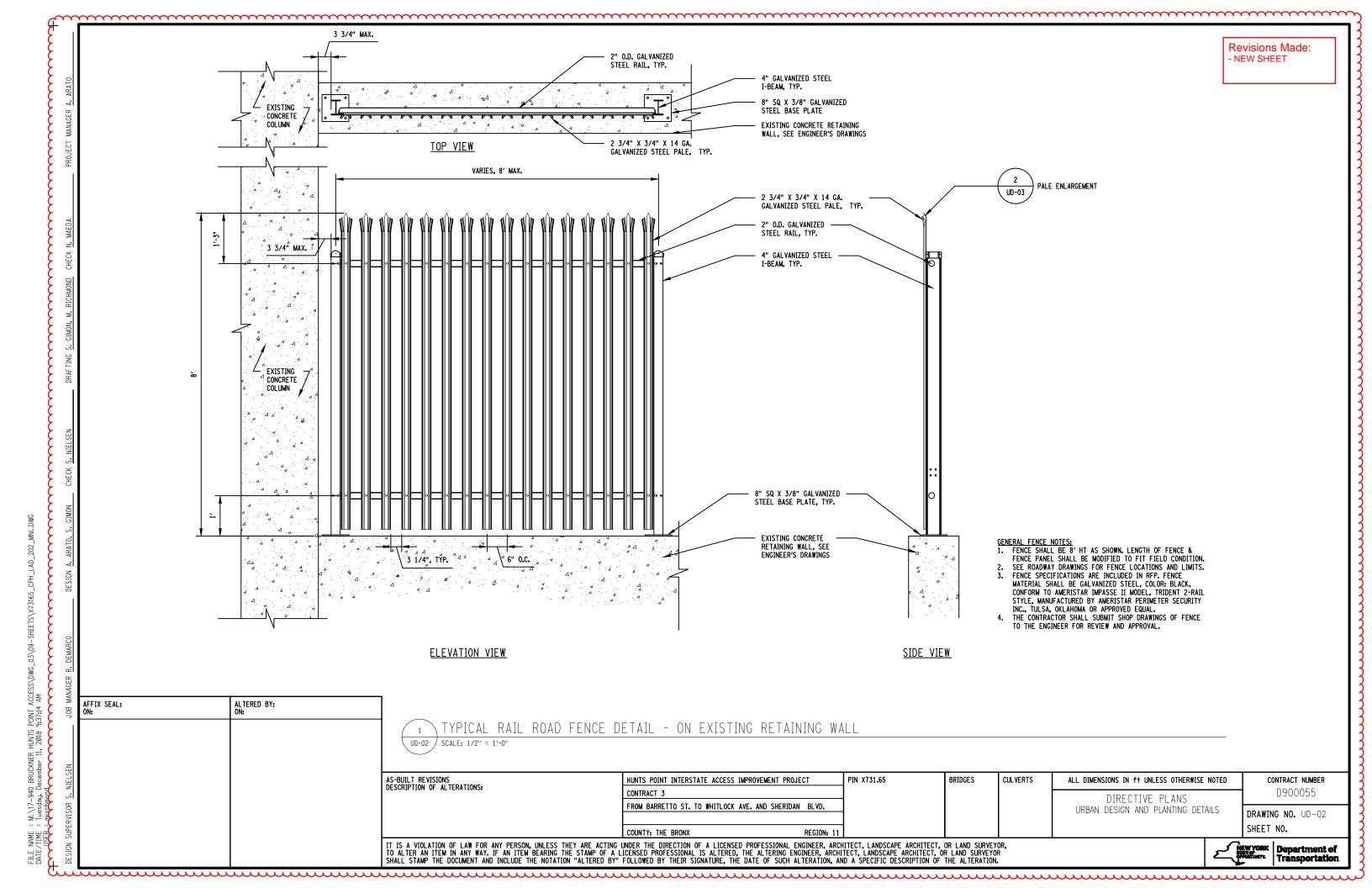
Revisions Made: - NEW SHEET

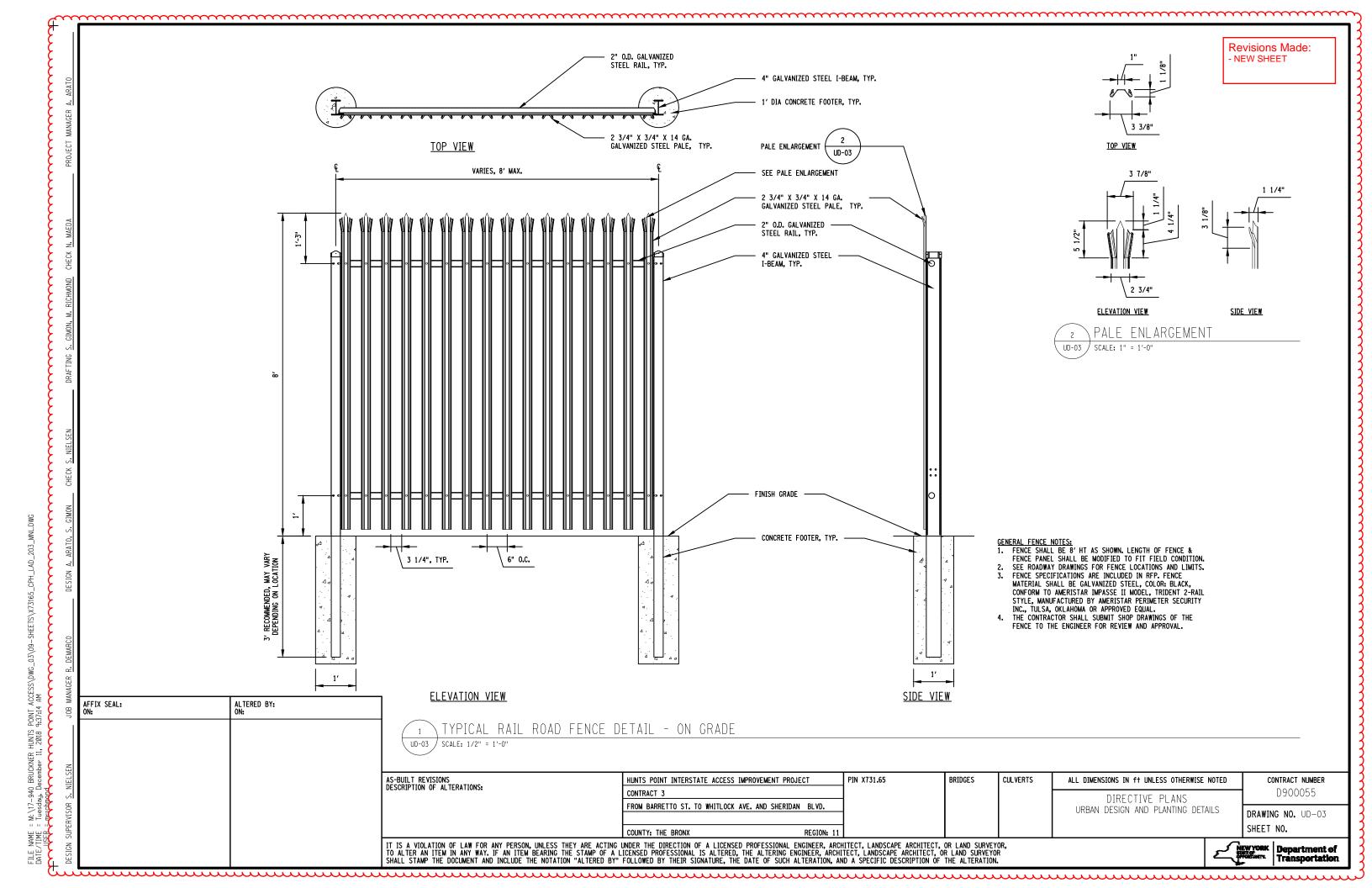
AS-BUILT REVISIONS	HUNTS POINT INTERSTATE ACCESS IMPROVEM	NT PROJECT PIN X731.65	BRIDGES	CULVERTS	ALL DIMENSIONS IN f† UNLESS OTHERWISE NOTED	CONTRACT NUMBER D900055
DESCRIPTION OF ALTERATIONS:	CONTRACT 3				DIRECTIVE PLANS PLANTING NOTES	
	FROM BARRETTO ST. TO WHITLOCK AVE. AND	SHERIDAN BLVD.				DRAWING NO. PN-01
	COUNTY, THE DROWN	DECION: 11				SHEET NO.

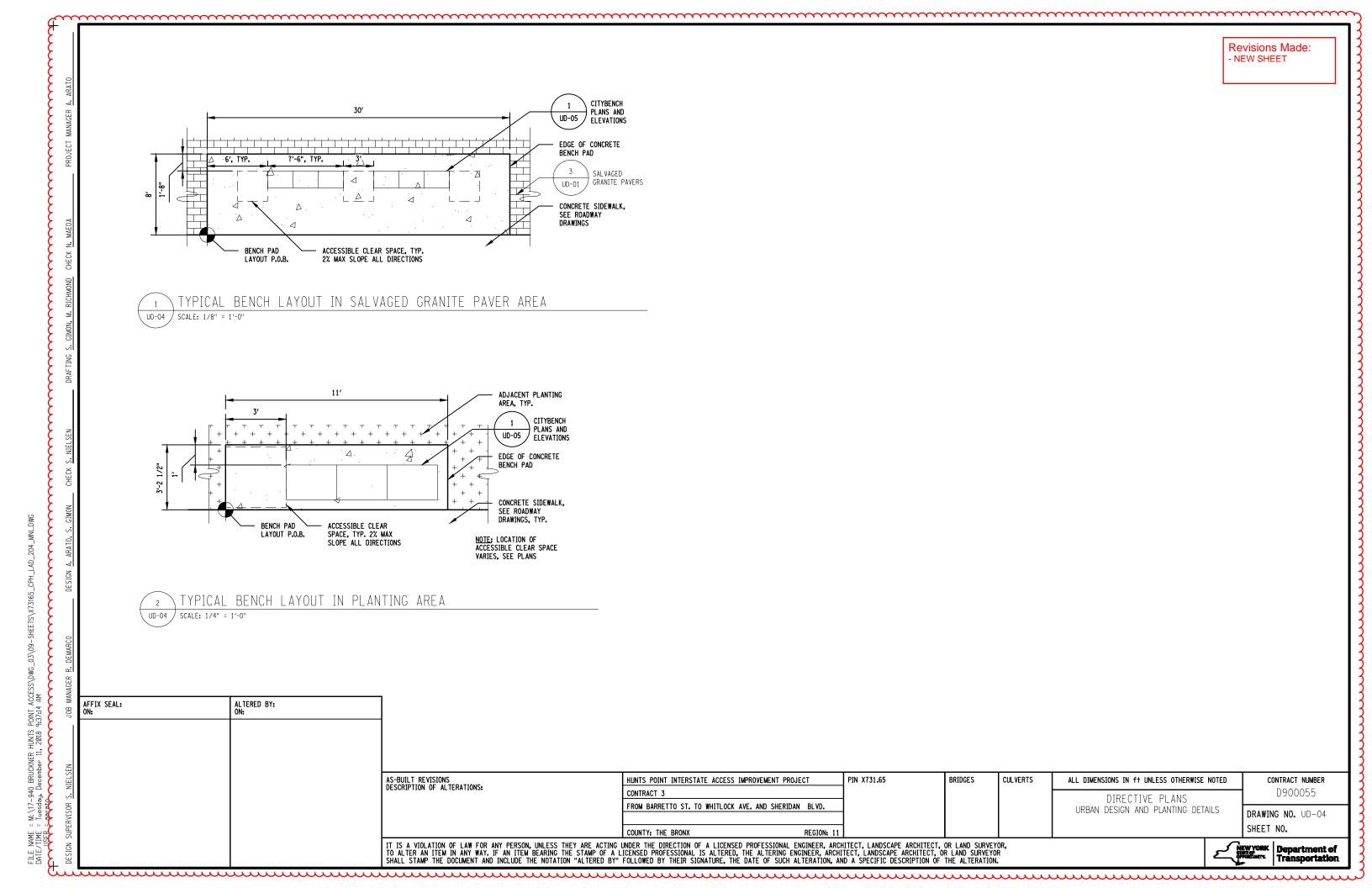
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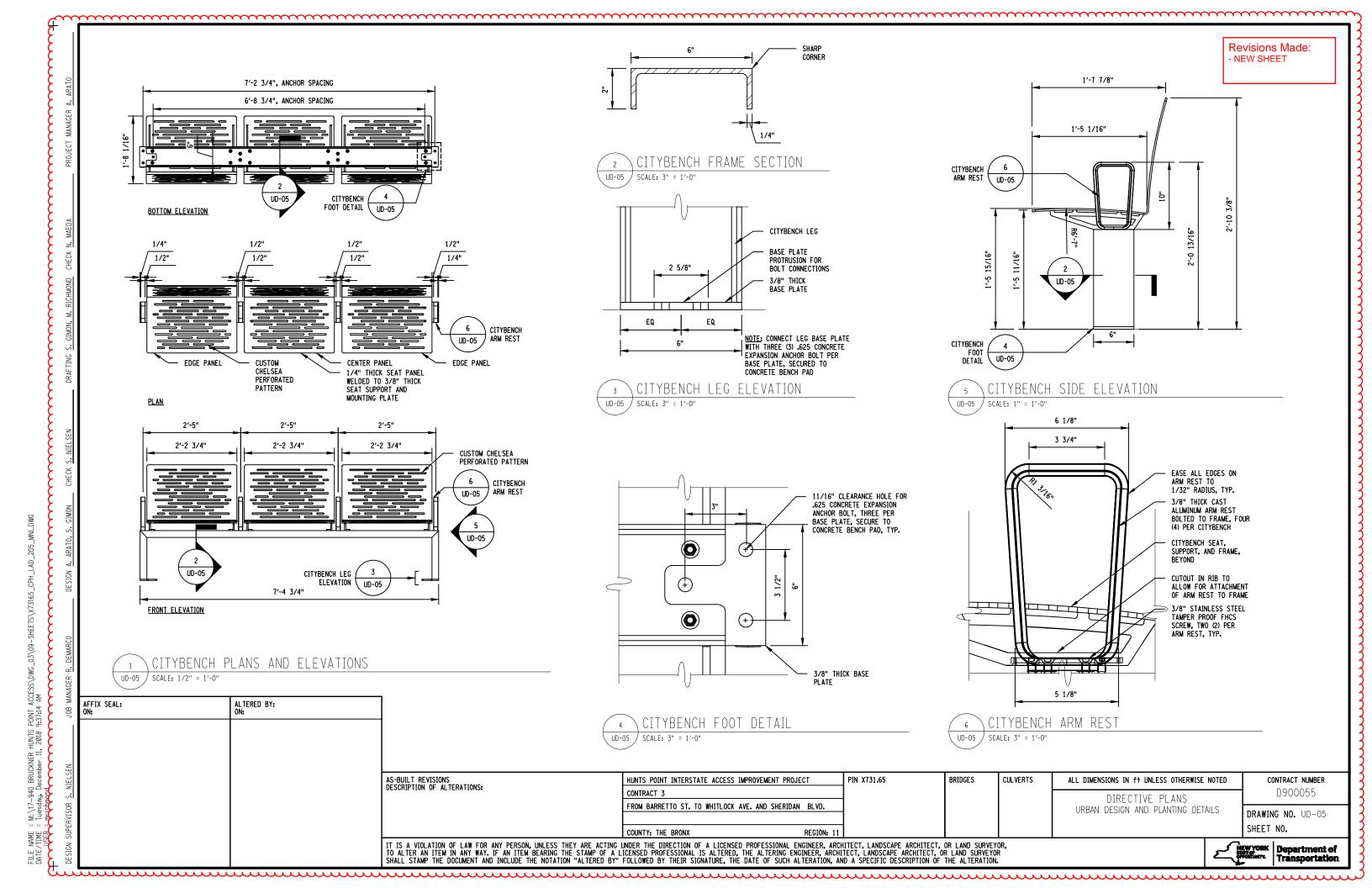


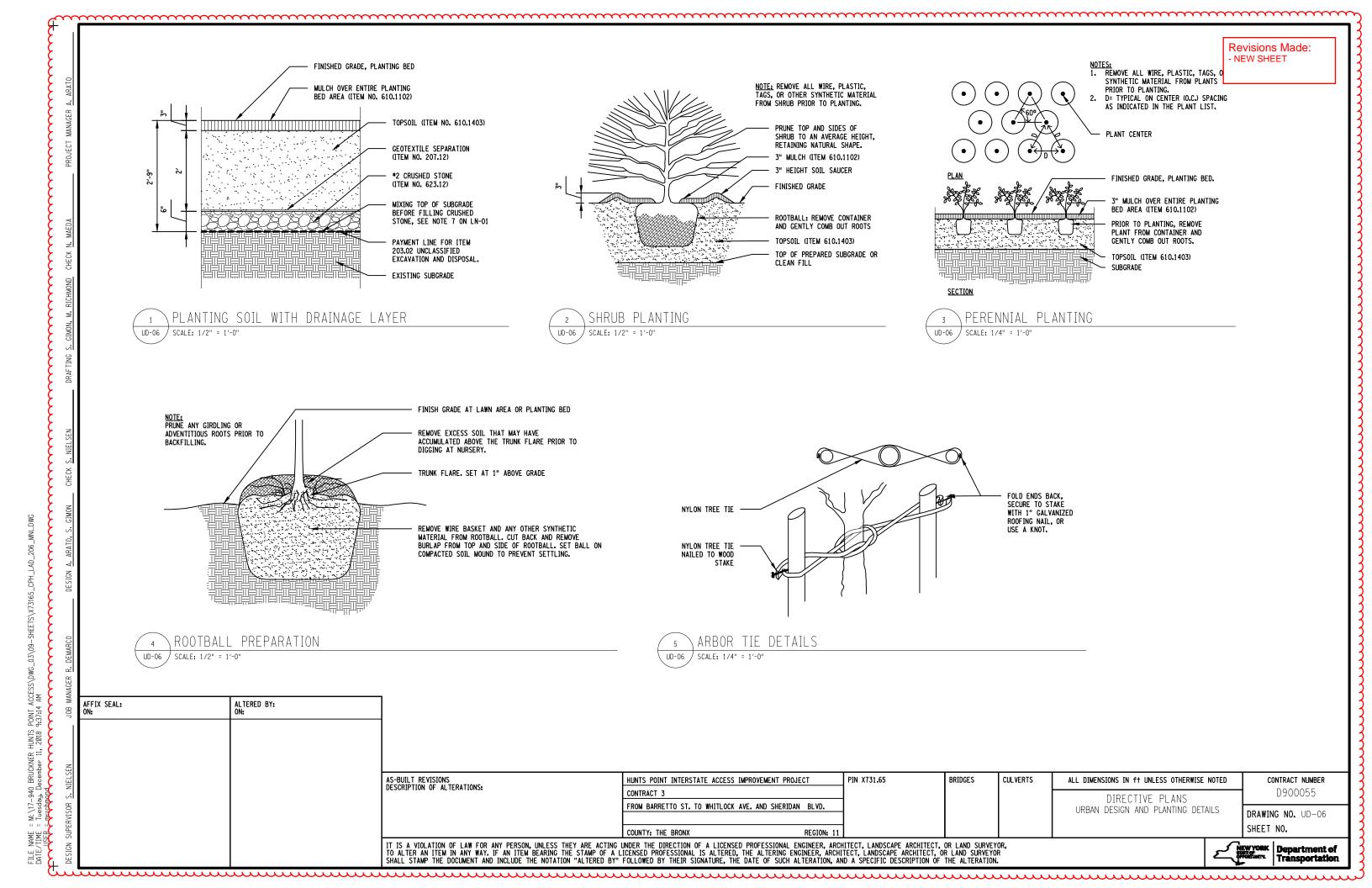


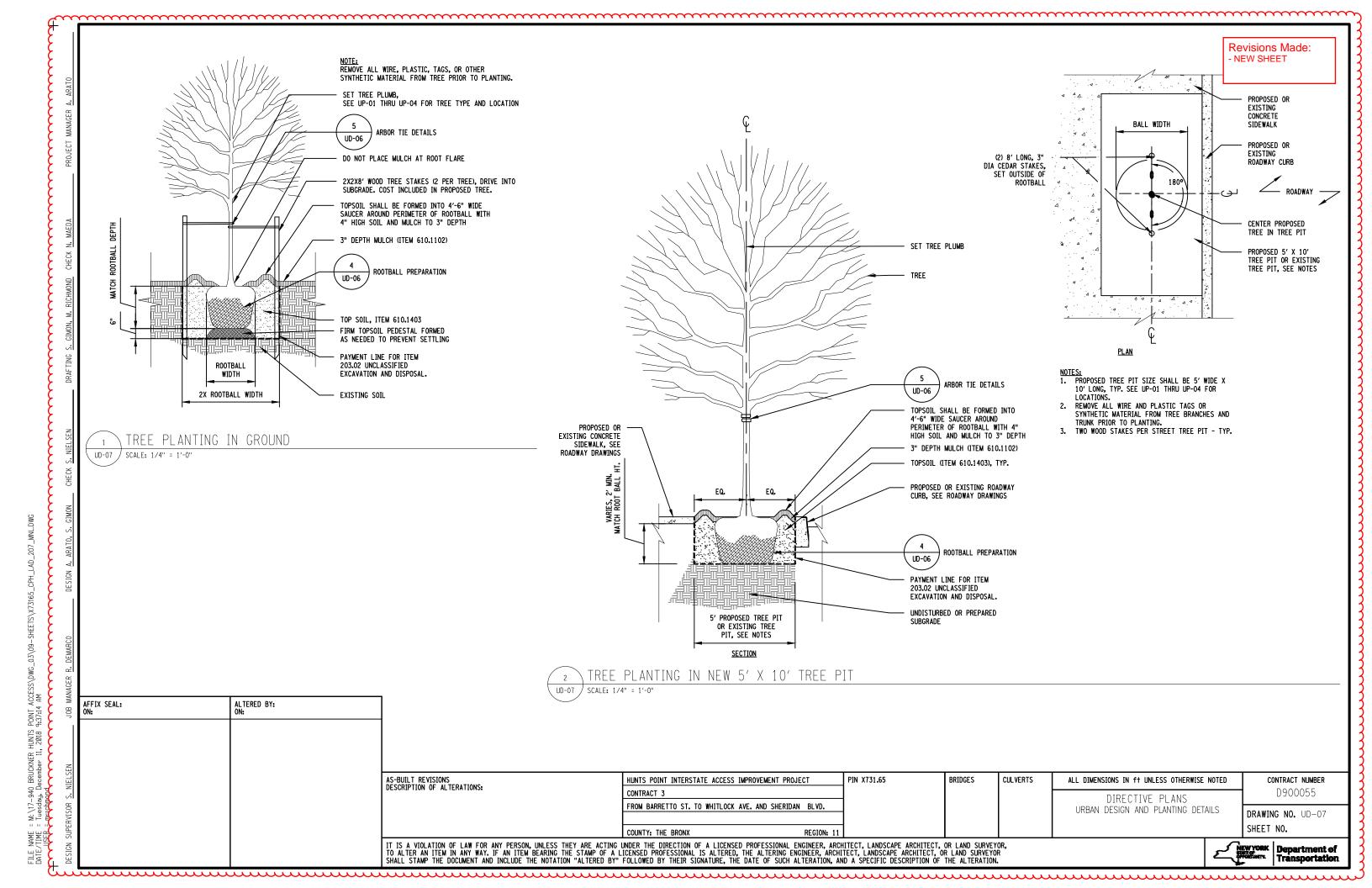


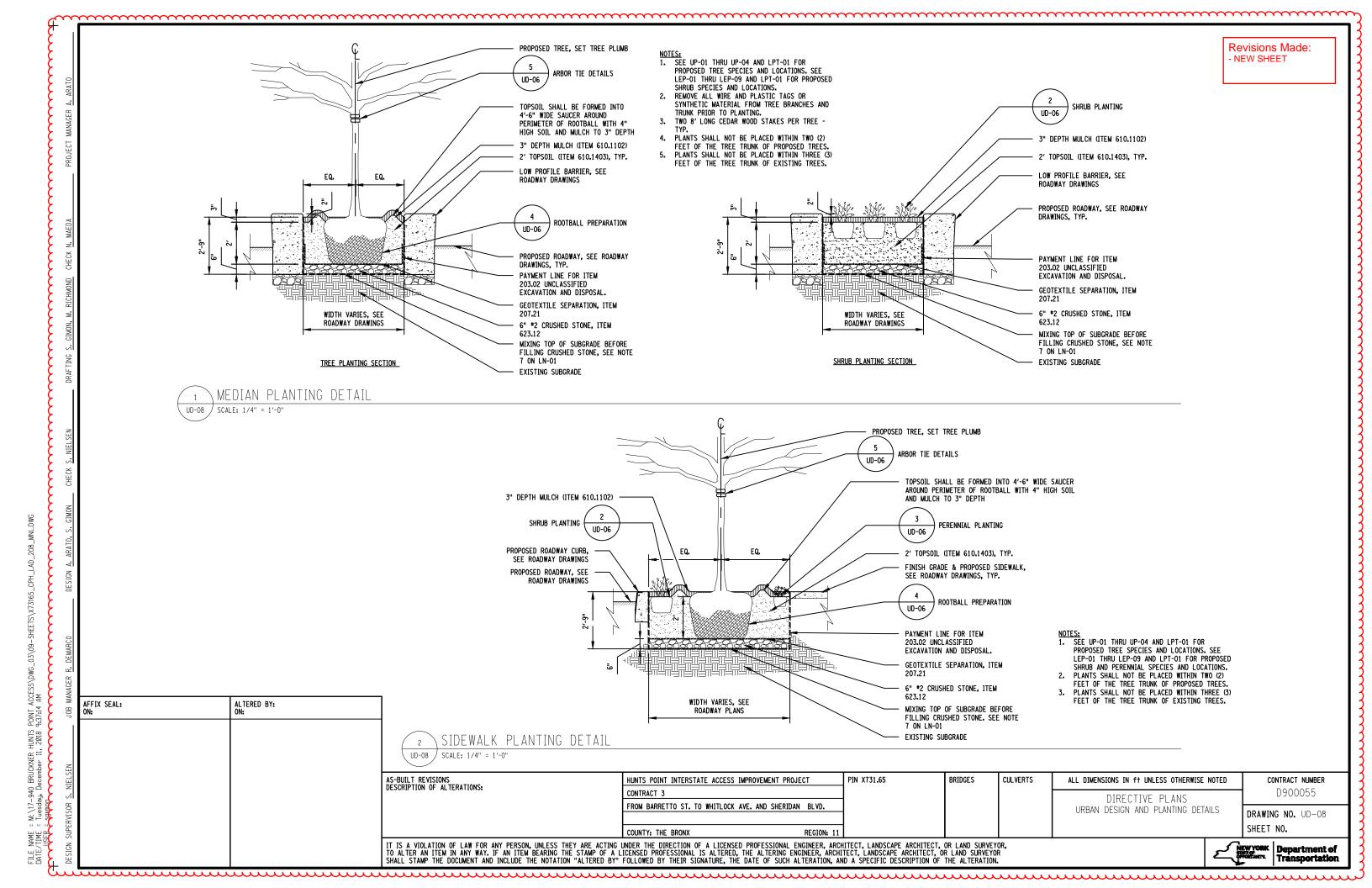


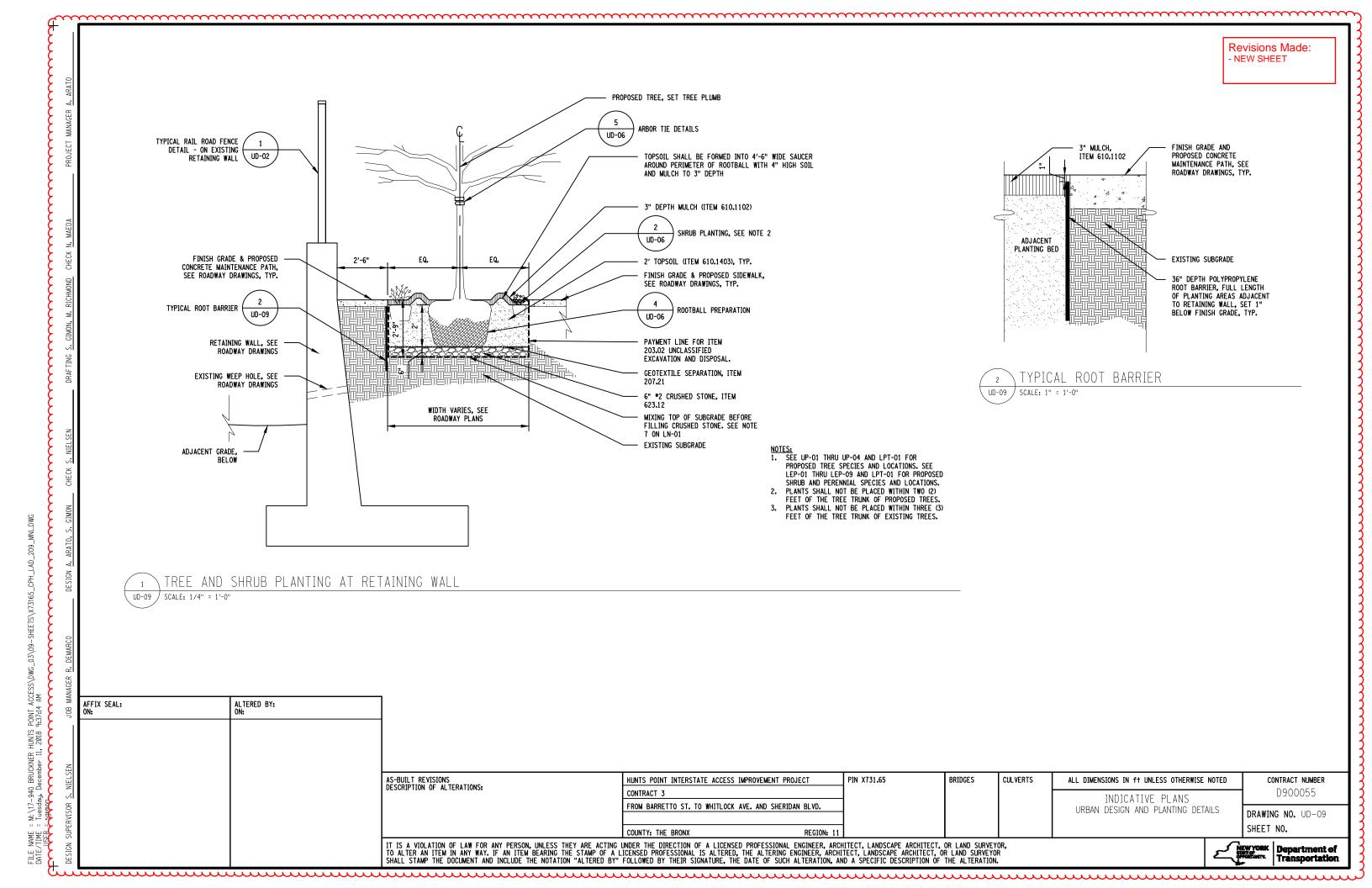


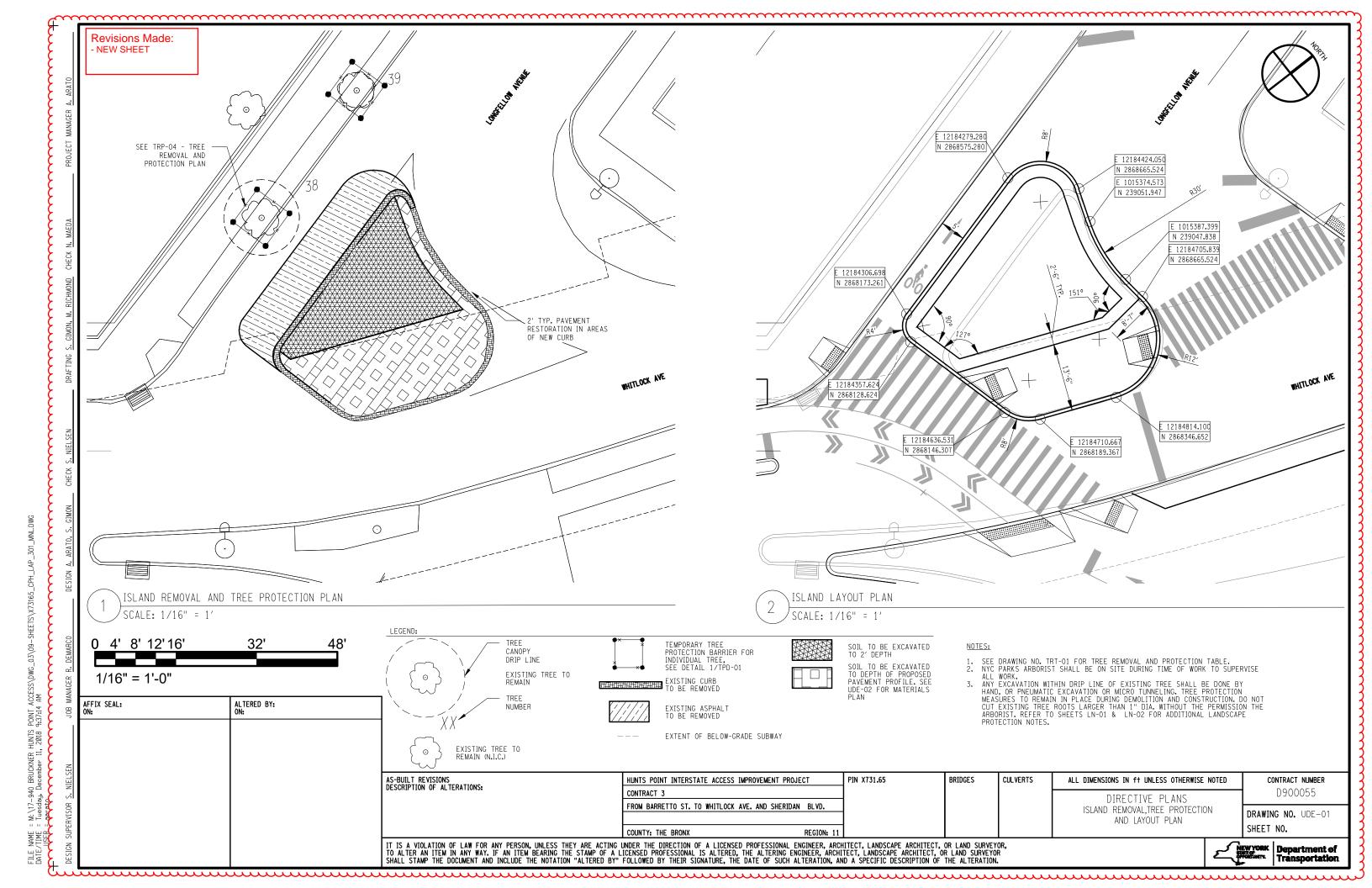


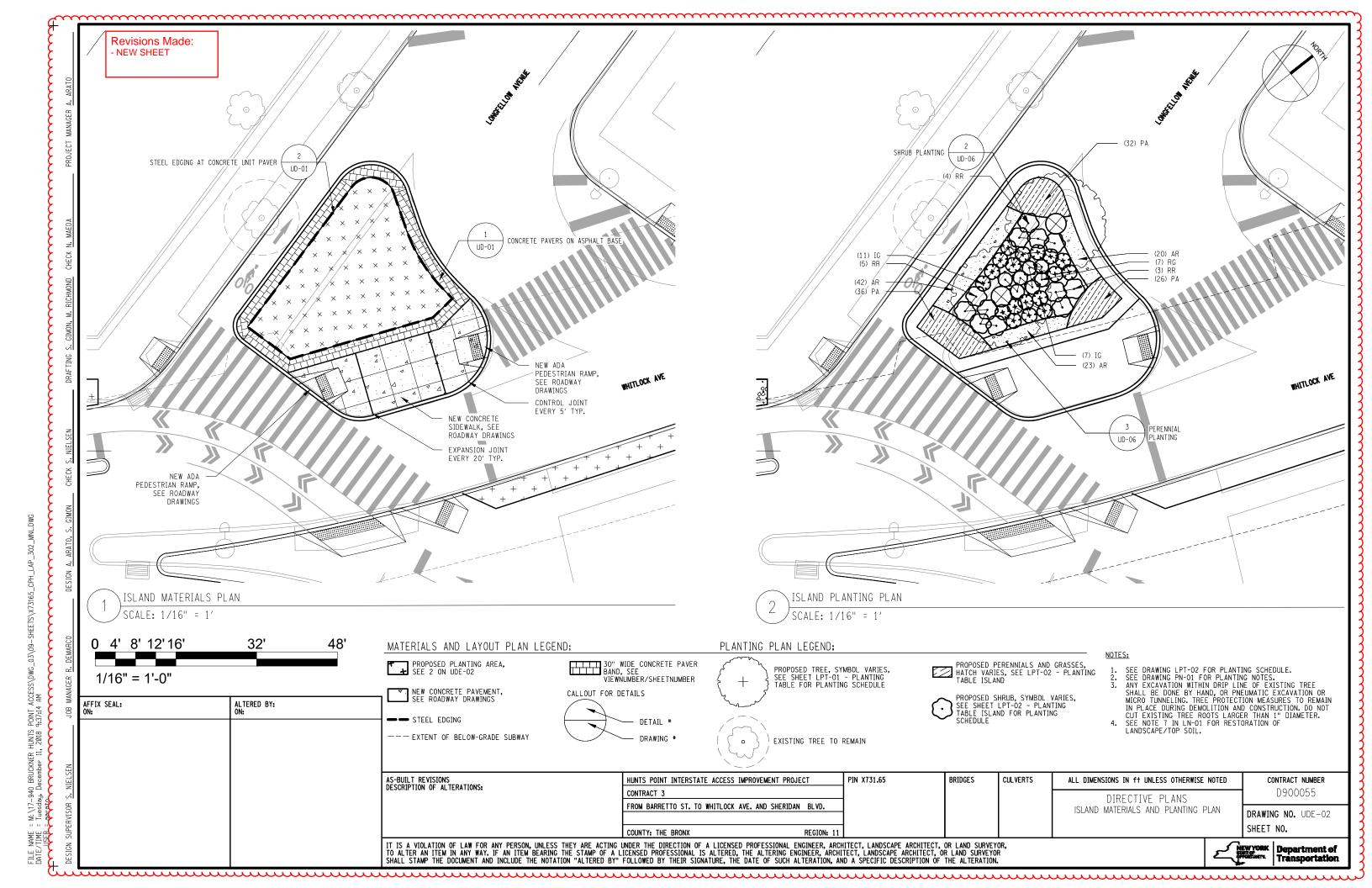












Revisions	Made
- NEW SHEE	т

PLANT SCHEDULE ISLAND							Item #	Item 610.0701 Mychhorhizal	Item 610.08 Moisture Ret.	Item 610.19	POST PLANTING CARE WITH REPLACEMENT				
SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS	. item #	Fungi	Additive	Water Veg.	Item 611.19040024	Item 611.19050024	Item 611.19070024
⊕	IG	18	ILEX GLABRA `SHAMROCK`	SHAMROCK INKBERRY HOLLY	18" - 24" HT	#3 CONT.	AS SHOWN		611.044x	3.24LB	3.65LB	6.84MGAL		18 EA	
0	RG	7	RHUS AROMATICA `GRO-LOW` (SMALL)	GRO-LOW FRAGRANT SUMAC	18" - 24" HT	#2 CONT.	AS SHOWN		611.044x	0.63LB	2.55LB	1.60MGAL	7 EA		
0	RR	12	ROSA X `RADRAZZ` TM	KNOCK OUT SHRUB ROSE	18" - 24" HT	#3 CONT.	AS SHOWN		611.044x	1.08LB	4.37LB	2.74MGAL	12 EA		
GROUND COVERS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS							
	<u> </u>	85	ASTER OBLONGIFOLIUS `RAYDON`S FAVORITE`	RAYDON'S FAVORITE FALL ASTER	-	#2 CONT.	18 O.C.		611.075x	3.74LB	56.19LB	9.69MGAL			85 EA
	РА	94	PENNISETUM ALOPECUROIDES `LITTLE BUNNY`	LITTLE BUNNY FOUNTAIN GRASS	-	#3 CONT.	18 O.C.		611.075x	4.14LB	62.14LB	10.72MGAL			94 EA
		•				•	•	TOTAL					19	18	179

AFFIX SEAL: ON:	ALTERED BY: ON:	
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AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS: HUNTS POINT INTERSTATE ACCESS IMPROVEMENT PROJECT CONTRACT 3 FROM BARRETTO ST. TO WHITLOCK AVE. AND SHERIDAN BLVD. COUNTY: THE BRONX REGION: 11

BRIDGES

PIN X731.65

CULVERTS

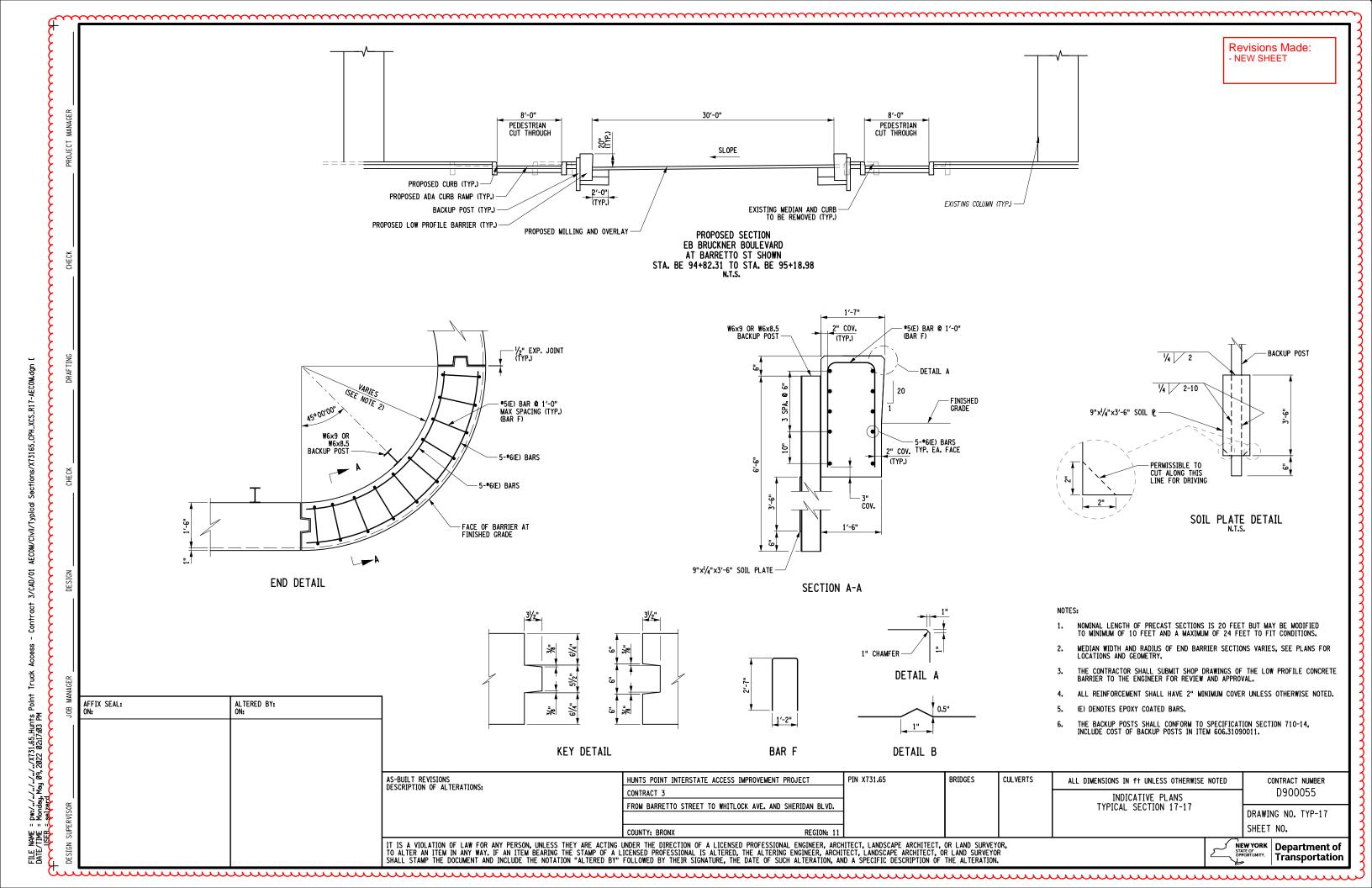
ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED DIRECTIVE PLANS PLANTING TABLE ISLAND

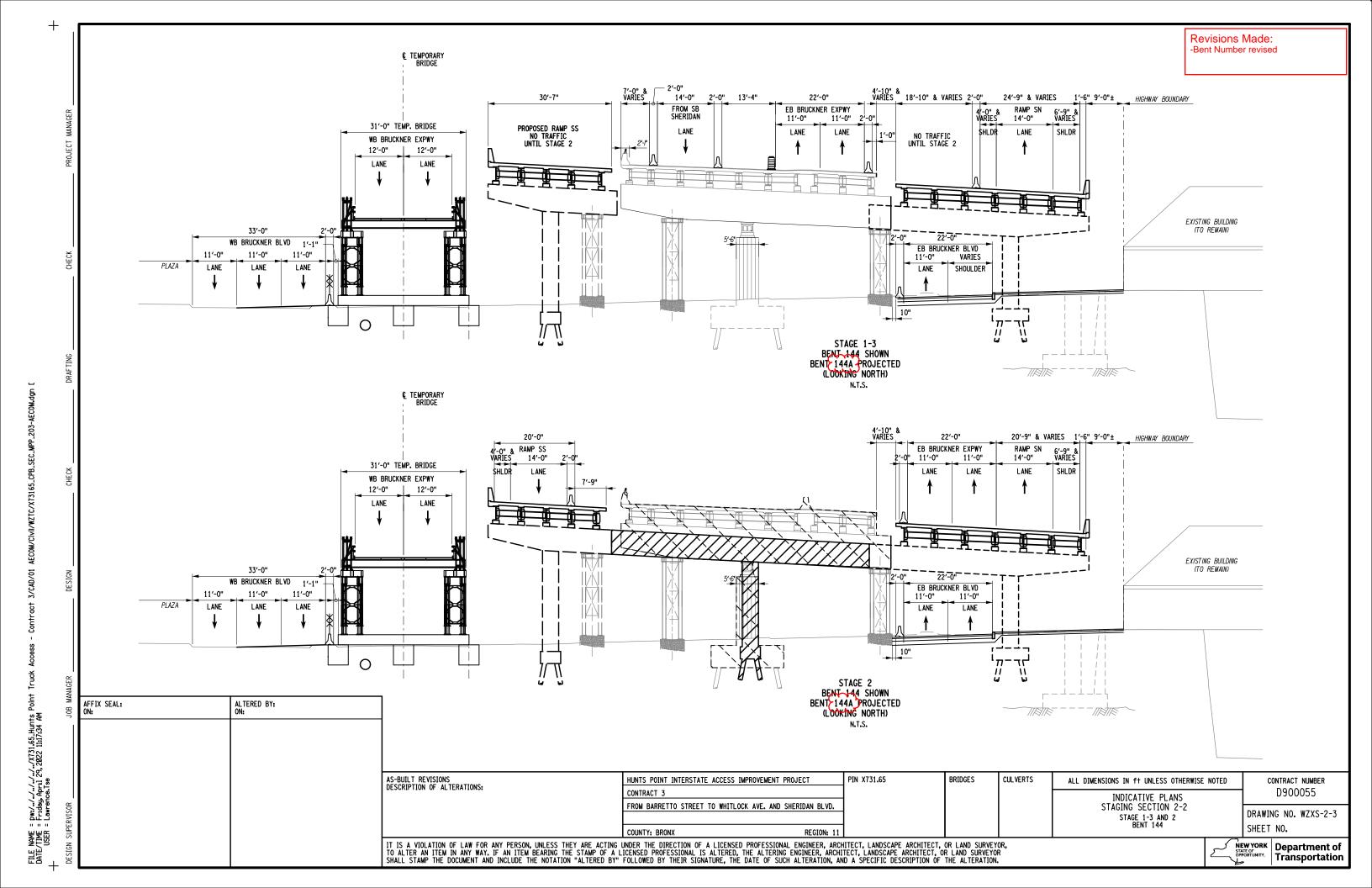
CONTRACT NUMBER D900055

DRAWING NO. LPT-02 SHEET NO.

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HUNTS POINT INTERSTATE ACCESS IMPROVEMENTS PROJECT

CONTRACT 3
FROM BARRETTO STREET TO WHITLOCK AVENUE AND SHERIDAN BOULEVARD.

LANDSCAPE

PIN X731.65, CONTRACT D900055

	SHEET LIST TABLE
SHEET NUMBER	SHEET TITLE
LN-00	COVER SHEET
LN-01	LANDSCAPE PROTECTION NOTES
LN-02	LANDSCAPE PROTECTION NOTES
TRP-01	TREE REMOVAL AND PROTECTION PLAN
TRP-02	TREE REMOVAL AND PROTECTION PLAN
TRP-03	TREE REMOVAL AND PROTECTION PLAN
TRP-04	TREE REMOVAL AND PROTECTION PLAN
TPD-01	TREE PROTECTION DETAILS
TRT-01	TREE REMOVAL AND PROTECTION TABLE
TRT-02	TREE REMOVAL AND PROTECTION TABLE
PN-01	PLANTING NOTES
UP-01	URBAN DESIGN AND PLANTING PLAN
UP-02	URBAN DESIGN AND PLANTING PLAN
UP-03	URBAN DESIGN AND PLANTING PLAN
UP-04	URBAN DESIGN AND PLANTING PLAN
UP-05	URBAN DESIGN AND PLANTING PLAN
LKP-01	LANDSCAPE KEY PLAN
LEP-01	LANDSCAPE ENLARGEMENT PLAN
LEP-02	LANDSCAPE ENLARGEMENT PLAN
LEP-03	LANDSCAPE ENLARGEMENT PLAN
LEP-04	LANDSCAPE ENLARGEMENT PLAN
LEP-05	LANDSCAPE ENLARGEMENT PLAN

LEP-07	LANDSCAPE ENLARGEMENT PLAN
LEP-08	LANDSCAPE ENLARGEMENT PLAN
LEP-09	LANDSCAPE ENLARGEMENT PLAN
LPT-01	PLANTING TABLE
USD-01	LANDSCAPE SECTIONS
USD-02	LANDSCAPE SECTIONS
UD-01	URBAN DESIGN AND PLANTING DETAILS
UD-02	URBAN DESIGN AND PLANTING DETAILS
UD-03	URBAN DESIGN AND PLANTING DETAILS
UD-04	URBAN DESIGN AND PLANTING DETAILS
UD-05	URBAN DESIGN AND PLANTING DETAILS
UD-06	URBAN DESIGN AND PLANTING DETAILS
UD-07	URBAN DESIGN AND PLANTING DETAILS
UD-08	URBAN DESIGN AND PLANTING DETAILS
UD-09	URBAN DESIGN AND PLANTING DETAILS
LEK-01	LANDSCAPE ENLARGEMENT KEY PLAN
UDE-01	ISLAND REMOVAL, TREE PROTECTION AND LAYOUT PLAN
UDE-02	ISLAND MATERIALS AND PLANTING PLAN
LPT-02	PLANTING TABLE ISLAND

	AFFIX SEAL: ON:	ALTERED BY: ON:	
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UILT REVISIONS	HUNTS POINT INTERSTATE ACCESS IMPROVEMENT PROJECT	
RIPTION OF ALTERATIONS:	CONTRACT 3	
	FROM BARRETTO ST. TO WHITLOCK AVE. AND SHERIDAN BLVD.	
	COUNTY, THE REONY RECTON:	11

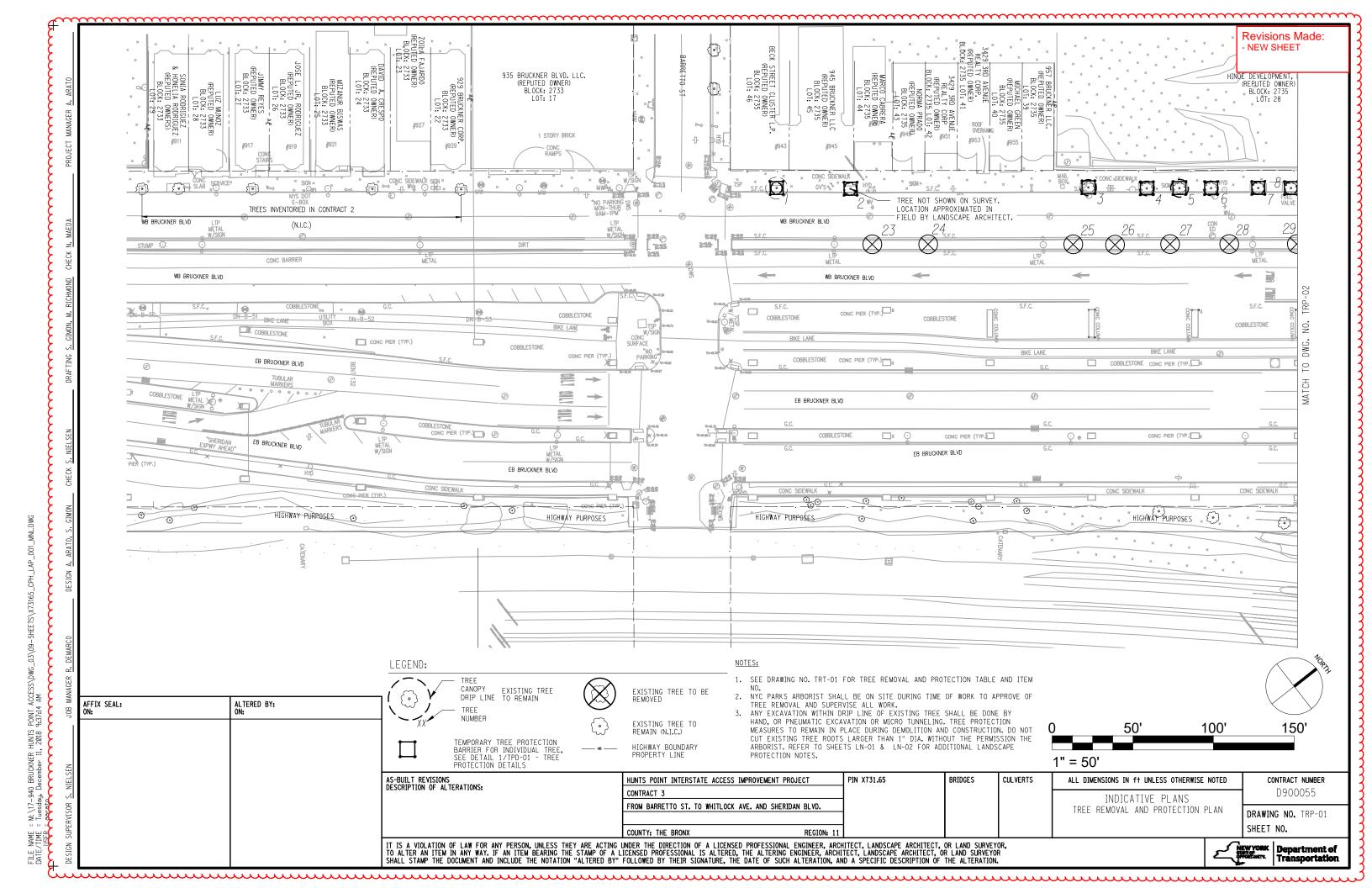
	PIN X731.65	BRIDGES	CULVERTS	ALL DIMENSIONS IN f† UNLESS OTHERWISE NOTED	CONTRACT NUM
				INDICATIVE PLANS	D900055
•				COVER SHEET	DRAWING NO. LN-
ON: 11					SHEET NO.

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FILE NAME = M:\77-940 BRUCKNER HUNIS POINT ACCESS\DWC_03\09-SHETS\X73165_CPH_CVR_000_M DATE/THE = Tuesddy, December II, 2018 9:37:14 AM

PERVISOR S. NIFL SEN. JOR MANAGER



:ILE NAME = M:\17-940 BRUCKNER HUNTS POINT ACCESS\DWC_03\09-SHEETS\X73165_CPH_LAP_002_MNLDWC DATE/TIME = Tuesday, December 11, 2018 9:37:14 AM

HUNTS POINT , 2018 9:37:14

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						NE (CRZ)					PR	EPARA	TORY P	PRUNII	NG				PROTE	CTION	l 		DECO	МРАСТ		IZE	ATOR	VAL OF ENT TO		
			ES NAME)		A CONDITION RATING	CRITICAL ROOTZONE RADIUS (ft.)	REMOVAL	REMOVAL	ANT TREE			ANSI	A-300				Wooden uard	Wooden Tree or Groves	Fence ary	Protect Existing Tree Roots w/ Woodchips	. Tree Roots od or Mats	3 Ft Radius	5 Ft Radius	ıch	Mulch	TORY FERTILIZE		CARE REMOVAL C CURB ADJACENT · S) - CASE NO. 6B	ø	
	TREE #	PLAN#	SPECIES (COMMON NAI	DBH (inches)	CTLA CON RATIN	ISA CRITIC	TREE REM	STUMP RE	TRANSPLANT	Cleaning	Raising	Reducing	Restoring	Structural	Thinning	Limb Tying	Temporary Wood Tree Guard	Temporary Wooden Guard For Grove	Temporary Fer Boundary	Protect Exi Roots w/ V	Protect Ex. Tree I w/ Plywood or I	Air-Tilling	Air-Tilling	Radial Trench	Vertical Mu	PREPARATORY	TREE GRO	SPECIAL EXISTING (TREE()	COMMENTS	
	1	TRP-01	LONDON PLANETREE	2.25	91%	3.0											Х											Х		
L	2	TRP-01	LONDON PLANETREE	2.5	81%	3.0											Х											Х		
L	3	TRP-01	LONDON PLANETREE	3	100%	3.0				Х							Х											Х	2019 Tree Tag	
	4	TRP-01	LONDON PLANETREE	2.75	97%	3.0											Х											Х		
L	5	TRP-01	LONDON PLANETREE	3	94%	3.0											Х											X		
	6	TRP-01	LONDON PLANETREE	2.75	88%	3.0				Х							Х											Х		
	7	TRP-01	LONDON PLANETREE	2.75	94%	3.0											X											X	trunk wounds	
	8	TRP-01	LONDON PLANETREE	2.75	97%	3.0											X											Х		
L	9	TRP-02	LONDON PLANETREE	2.5	94%	3.0											Х											Х	trunk wounds	
	10	TRP-02	LONDON PLANETREE	2.75	97%	3.0				Х							Х											X	bark damage	
	11	TRP-02	GINKGO	2	100%	3.0											Х											Х		
	12	TRP-03	OAK, NORTHERN RED	5.5	91%	4.1	X																						trunk wound	
	13	TRP-03	OAK, WHITE	4.5	88%	3.0	Х			Х	Χ			Χ															low branched, central leader bro	ken at top
	14	TRP-03	HORNBEAM, EUROPEAN	3.75	97%	3.8	X																						fastigiate	
	15	TRP-03	HORNBEAM, EUROPEAN	4.5	100%	4.5	X																						fastigiate	
	16	TRP-03	OAK, NORTHERN RED	6.25	97%	4.7	X																						hole in trunck	
	17	TRP-03	OAK, WHITE	3.5	72%	3.0	X																						estimated 30% crown death, tru	nk wound
	18	TRP-03	OAK, NORTHERN RED	4.25	56%	3.2	X																						heavy watersprouts, trunk wound	ds, leaning
	19	TRP-04	OAK, OTHER	3.25	72%	3.0								Х			Х											Х	trunk wound, twisted brand	ches
	20	TRP-04	KENTUCKY COFFEETREE	3	69%	3.0	X																						trunk wound at base, waters	prouts
	21	TRP-04	ZELKOVA	3.5	84%	3.5											Х											Х	trunk wound	
	22	TRP-04	ZELKOVA	3.25	72%	3.3											Х											Х		
	23	TRP-01	HONEYLOCUST	6	56%	3.0	X																						multistem, suckering	
	24	TRP-01	HONEYLOCUST	7.5	63%	5.6	X			Х																			broken branches, epicormic b	ranches
	25	TRP-01	HONEYLOCUST	8.5	63%	6.4	Х			Х																			epicormic branches	

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NOTES:

- 1. SEE DETAIL 1/TPD-01 FOR TEMPORARY WOODEN TREE GUARD.
- 2. SEE DETAIL 2/TPD-01 FOR SPECIAL CARE REMOVAL OF EXISTING CURB ADJACENT TO TREE(S) - CASE NO. 6B.

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	HUNTS POINT INTERSTATE ACCESS IMPROVEMENT PROJECT	PIN X731.65	BRIDGES	CULVERTS	ALL DIMENSIONS IN f+ UNLESS OTHERWISE NOTED
DESCRIPTION OF ALTERATIONS:	CONTRACT 3				INDICATIVE PLANS
	FROM BARRETTO ST. TO WHITLOCK AVE. AND SHERIDAN BLVD.				TREE REMOVAL AND PROTECTION TABLE
	COUNTY, THE BRONY RECION.	11			

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AFFIX SEAL: ON:

ALTERED BY: ON:

NEW YORK Department of Transportation

SHEET NO.

CONTRACT NUMBER D900055

DRAWING NO. TRT-01

				_	OTZONE (CRZ) S (ft.)			TREE		PRI	EPARA	TORY	PRUNI	NG			Tree	PROTE	ection	Roots Mats	Radius	Radius	МРАСТ		FERTILIZE	GROWTH REGULATOR	REMOVAL OF ADJACENT TO SE NO. 6B	
		S IAME)		Į į	L RO	VAL	REMOVAL	ANT TR			ANSI A	A-300				Wooden	Voode r Gro	Fence	ting T	ree F	Ft Ra	Ft Ra	ᇊ	 ਜ਼		H R	ARE I URB /	
TREE #	PLAN #	SPECIES (COMMON NAI	DBH (inches)	CTLA CONDITION RATING	ISA CRITICAL ROOT RADIUS (f	TREE REMOVA	STUMP REM	TRANSPLAN	Cleaning	Raising	Reducing	Restoring	Structural	Thinning	Limb Tying	Temporary Wood Tree Guard	Temporary Wooden Guard For Grove	Temporary Fer Boundary	Protect Existing Tree Roots w/ Woodchips	Protect Ex. Tree I w/ Plywood or I	Air-Tilling 3	Air-Tilling 5	Radial Trench	Vertical Mulch	PREPARATORY	TREE GROW	SPECIAL CARE REMOVAL EXISTING CURB ADJACENT TREE(S) - CASE NO. 6B	COMMENTS
26	TRP-01	HONEYLOCUST	7.25	53%	5.4	Х																						thorns
27	TRP-01	HONEYLOCUST	7.5	69%	5.6	Х																						watersprouts
28	TRP-01	LONDON PLANETREE	19	63%	23.8	Х																						leaning, trunk cavity, suckering
29	TRP-01	HONEYLOCUST	10.25	72%	7.7	Х																						trunk wound, trunk bulge at base
30	TRP-02	HONEYLOCUST	8.25	75%	6.2	X							Х															codominant branches
31	TRP-02	HONEYLOCUST	11	63%	8.3	X																						girdling roots, multistem
32	TRP-02	HONEYLOCUST	7	63%	3.5	X																						suckering, damaged branches, multistem
33	TRP-02	HONEYLOCUST	6	56%	3.0	X			Х																			several damaged branches, multistem
34	TRP-02	TREE OF HEAVEN	14	81%	10.5	X																						invasive
35	TRP-02	TREE OF HEAVEN	6	75%	3.0	X																						invasive, multistem
36	TRP-02	TREE OF HEAVEN	12	81%	9.0	X																						invasive, multistem
37	TRP-02	TREE OF HEAVEN	0	0%		Х																						invasive, unable to access tree for measurements/inspection
38	TRP-04	ZELKOVA	4.75	91%	4.8											X											Х	
39	TRP-04	HORNBEAM, EUROPEAN	2.5	91%	3.0											Х											Х	
40	TRP-04	HORNBEAM, EUROPEAN	2.75	81%	3.0											X											Х	trunk wound, watersprouts
41	TRP-04	HORNBEAM, EUROPEAN	1.75	84%	3.0											X											Х	trunk damage
42	TRP-04	LONDON PLANETREE	11.5	91%	11.5											X											Х	
43	TRP-04	LONDON PLANETREE	13.25	91%	13.3											X											Х	leaning over road, trunk wound
44	TRP-04	LONDON PLANETREE	12.25	91%	12.3											X											Х	leaning over road, trunk wound
45	TRP-04	LONDON PLANETREE	11	94%	11.0											Х											Х	leaning over road, trunk damage

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NOTES:

- SEE DETAIL 1/TPD-01 FOR TEMPORARY WOODEN TREE GUARD.
- 2. SEE DETAIL 2/TPD-01 FOR SPECIAL CARE REMOVAL OF EXISTING CURB ADJACENT TO TREE(S) CASE NO. 6B.

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	HUNTS POINT INTERSTATE ACCESS IMPROVEMENT PRO	PIN X731.65	BRIDGES	CULVERTS	ALL DIMENSIONS IN f† UNLESS OTHERWISE NOTED
DESCRIPTION OF ALTERATIONS:	CONTRACT 3				INDICATIVE PLANS
	FROM BARRETTO ST. TO WHITLOCK AVE. AND SHERIDA	N BLVD.			TREE REMOVAL AND PROTECTION TABLE
	COUNTY THE PROMY	DECION 44			

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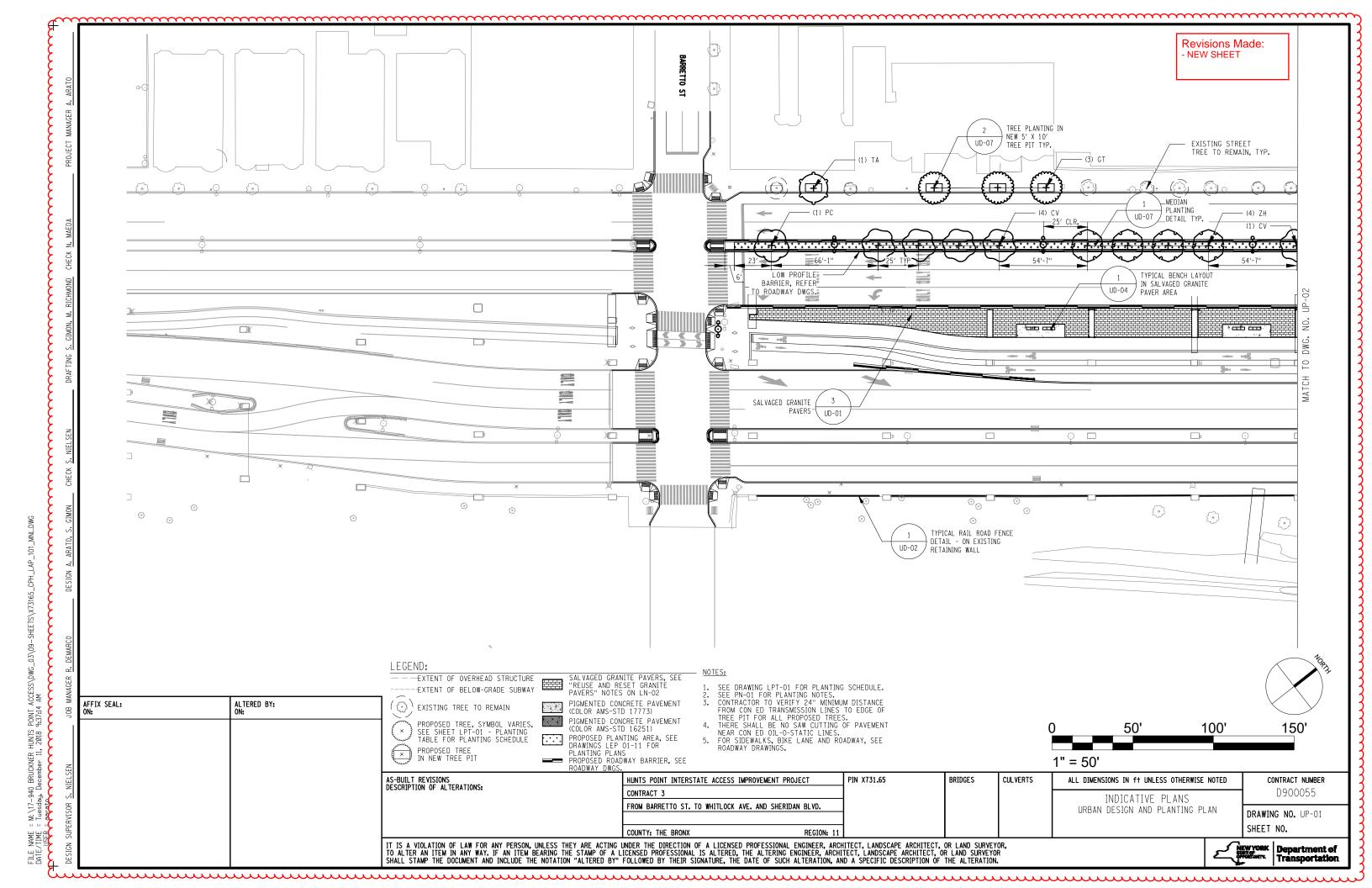


DRAWING NO. TRT-02

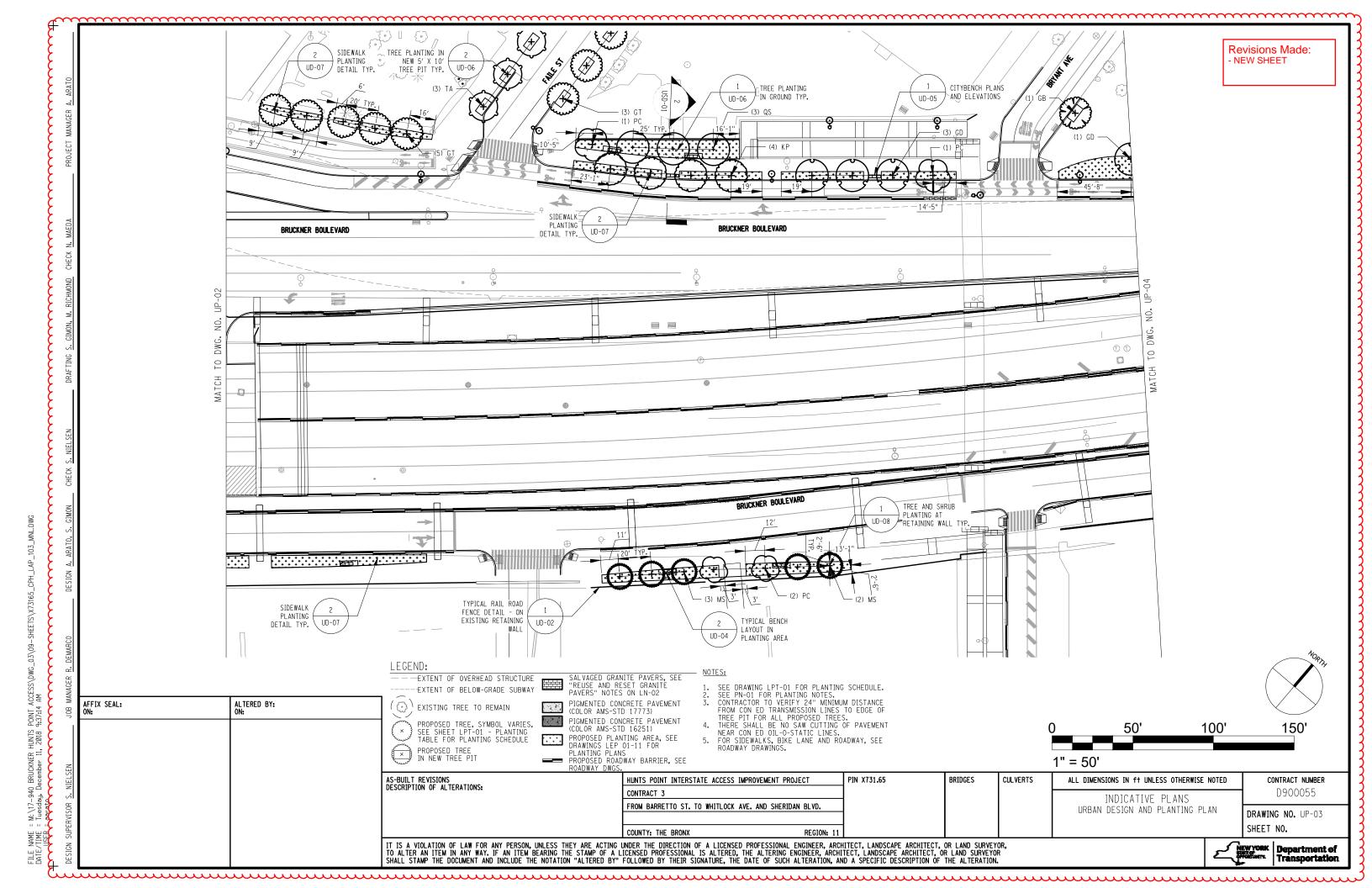
SHEET NO.

CONTRACT NUMBER
D900055

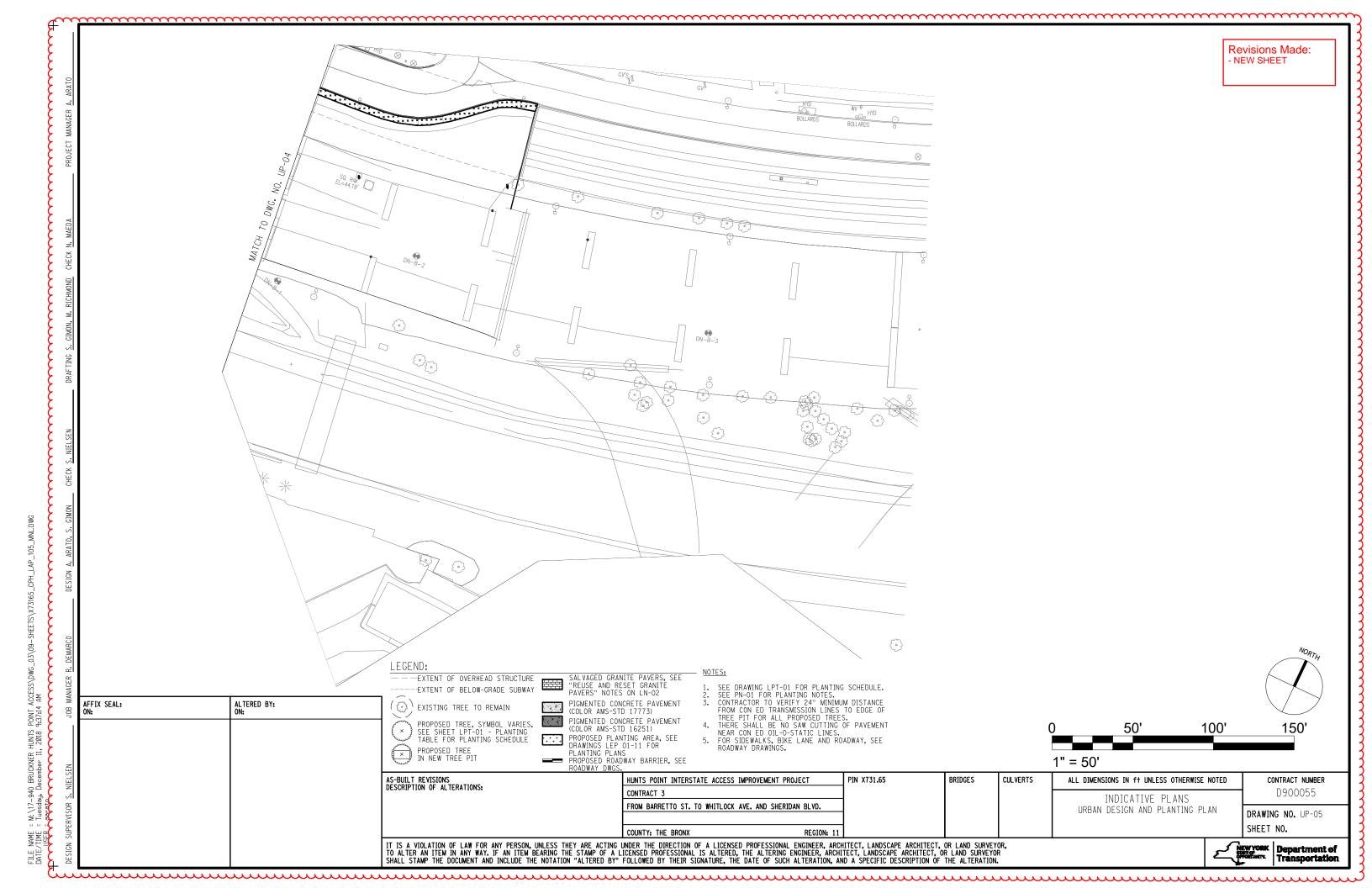
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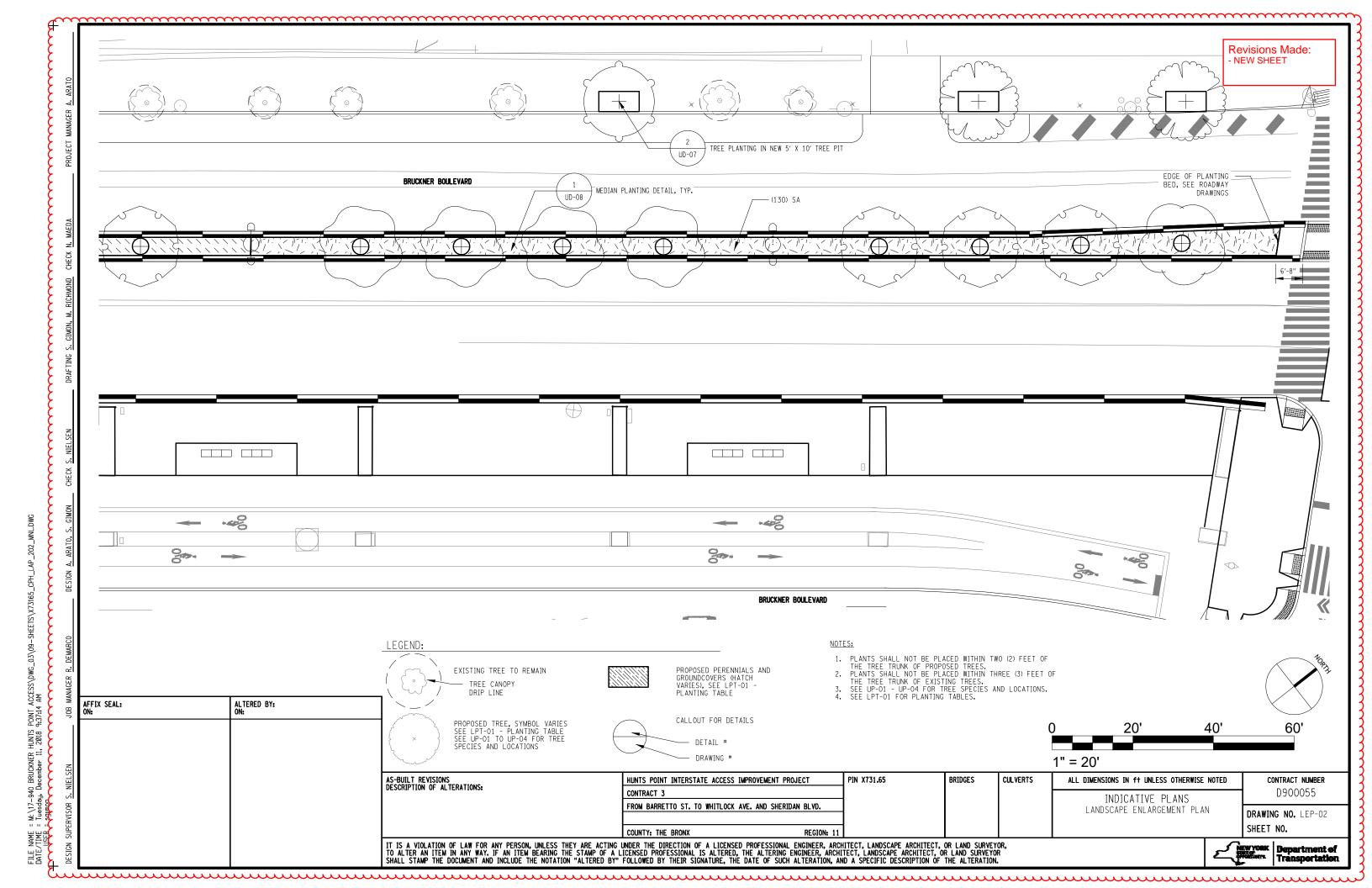


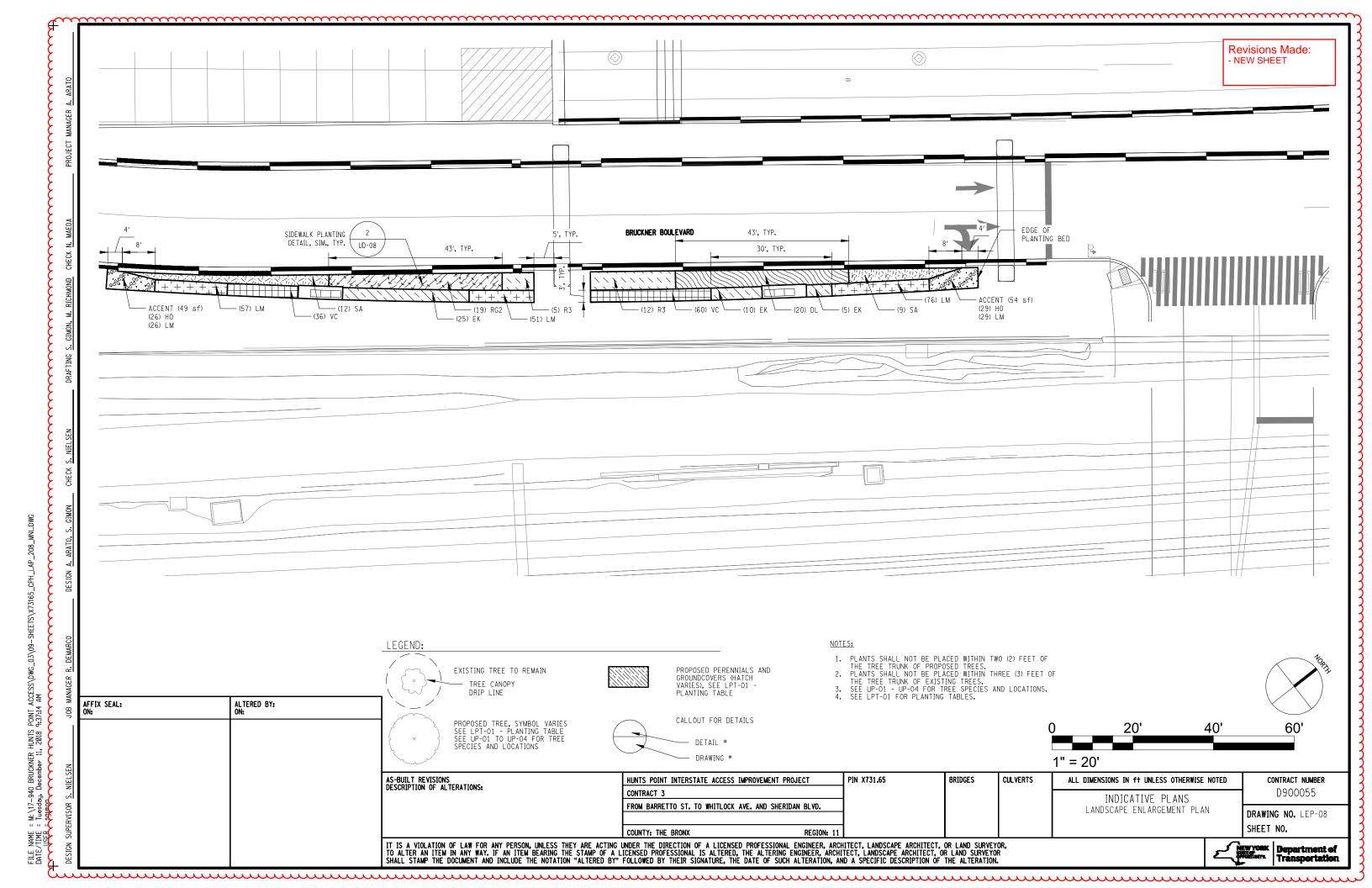
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LEGEND

B&B = BALLED AND BURLAPED

CONT. = CONTAINER

HT. = HEIGHT

O.C. = ON CENTER

NOTES

- ALL MATERIAL SPECIFIED BY CONTAINER SIZE SHALL HAVE SUFFICIENT ROOTS SO THAT THE SOIL REMAINS THE SHAPE OF THE CONTAINER WHEN THE PLANT IS REMOVED FROM THE CONTAINER.
- MINIMAL CONTAINER VOLUMES SHALL BE AS DEFINED BY THE CURRENT EDITION OF AMERICAN STANDARD FOR NURSERY STOCK.
- SPECIFIED PLANT SIZE ARE MINIMUMS. LARGER SIZES ARE ACCEPTABLE AS LONG AS THE BALL OR POT SIZE MEETS THE MINIMUM SIZE FOR THE PLANT SIZE AS RECOMMENDED IN THE CURRENT EDITION OF AMERICAN STANDARD FOR NURSERY STOCK.
- 4. CONTAINER GROWN PLANTS SHALL NOT BE ROOT-BOUND. PLANTS WITH NUMEROUS ROOTS ENCIRCLING THE PERIMETER OF THE CONTAINER WILL BE REJECTED.

PLANT SCHEDULE PROPOSED UNDERSTORY								
SHRUB AREAS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONT	SPACING	REMARK
	DL	149	DIERVILLA LONICERA	DWARF BUSH HONEYSUCKLE	#3	CONT.	36" o.c.	
	RG2	120	RHUS AROMATICA `GRO-LOW`	GRO-LOW FRAGRANT SUMAC	#3	CONT.	36" o.c.	
	R3	319	ROSA X `RADRAZZ` TM	KNOCK OUT SHRUB ROSE	#3	CONT.	36" o.c.	
	SA	239	SPIRAEA X BUMALDA `ANTHONY WATERER`	ANTHONY WATERER BUMALD SPIRAEA	#3	CONT.	36" o.c.	
GROUND COVERS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARK
	a a	476 SF	ACCENT					
	НО	254	HEMEROCALLIS X `STELLA DE ORO`	STELLA DE ORO DAYLILY	BULB		50% @ 12" o.c.	
	LM	254	LIRIOPE MUSCARI 'BIG BLUE'	BIG BLUE LILYTURF	#1	CONT.	50% @ 12" o.c.	
	EK	273	EUONYMUS FORTUNEI 'KEWENSIS'	KEW EUNONYMUS	#1	CONT.	24" o.c.	
	± LM	2,063	LIRIOPE MUSCARI 'BIG BLUE'	BIG BLUE LILYTURF	#1	CONT.	12" o.c.	
	vc	696	VINCA MINOR `BOWLES`	BOWLES COMMON PERIWINKLE	#1	CONT.	15" o.c.	

J0B 1	AFFIX SEAL: ON:	ALTERED BY: ON:	
NIELSEN			AC DULL T DEVICE ONE
S. NIEI			AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:

HUNTS POINT INTERSTATE ACCESS IMPROVEMENT PROJECT
CONTRACT 3
FROM BARRETTO ST. TO WHITLOCK AVE. AND SHERIDAN BLVD.

COUNTY: THE BRONX REGION:

PIN X731.65 BRIDGES

CULVERTS

ALL DIMENSIONS IN ## UNLESS OTHERWISE NOTED

INDICATIVE PLANS
PLANTING TABLE

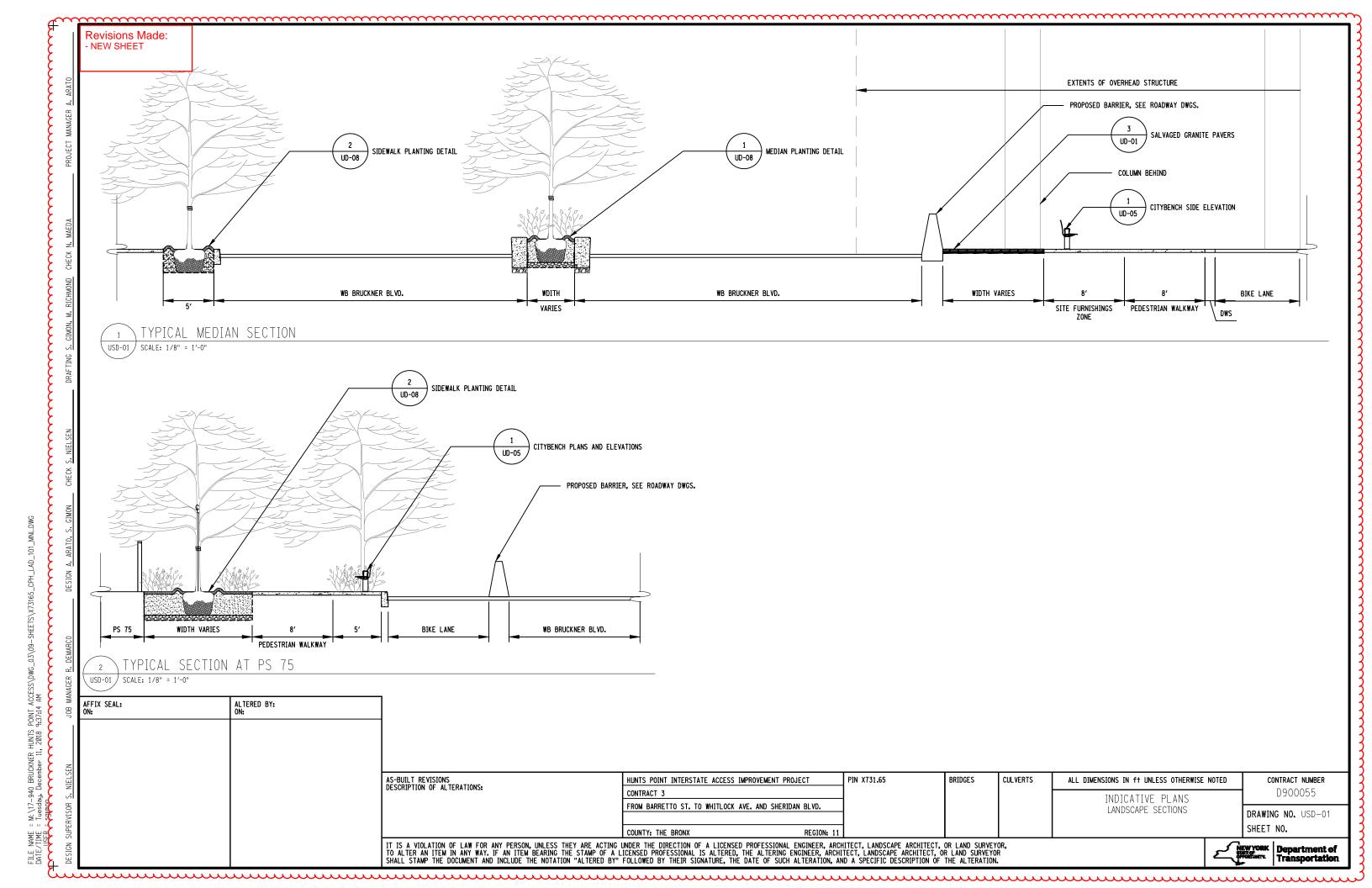
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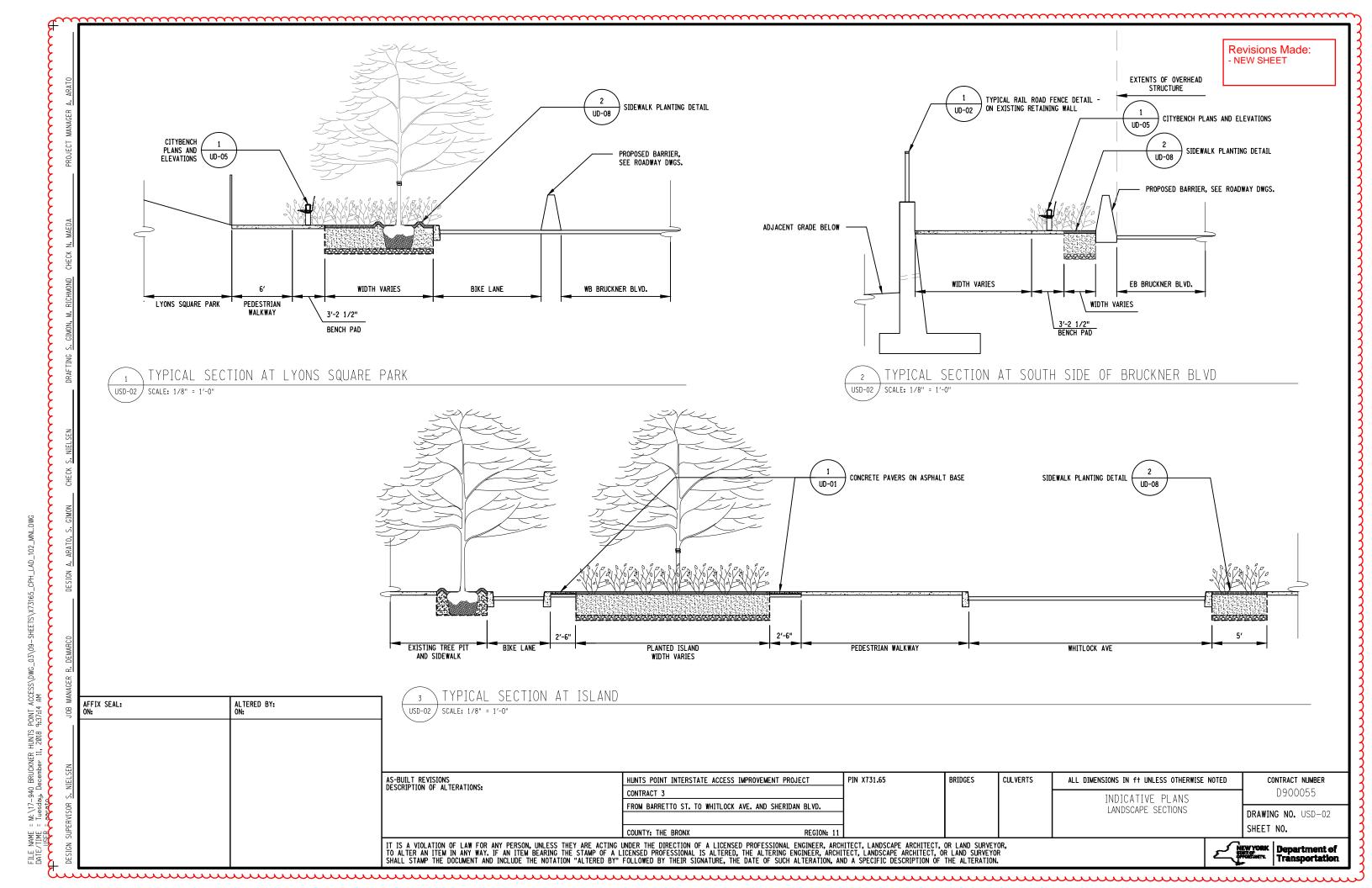
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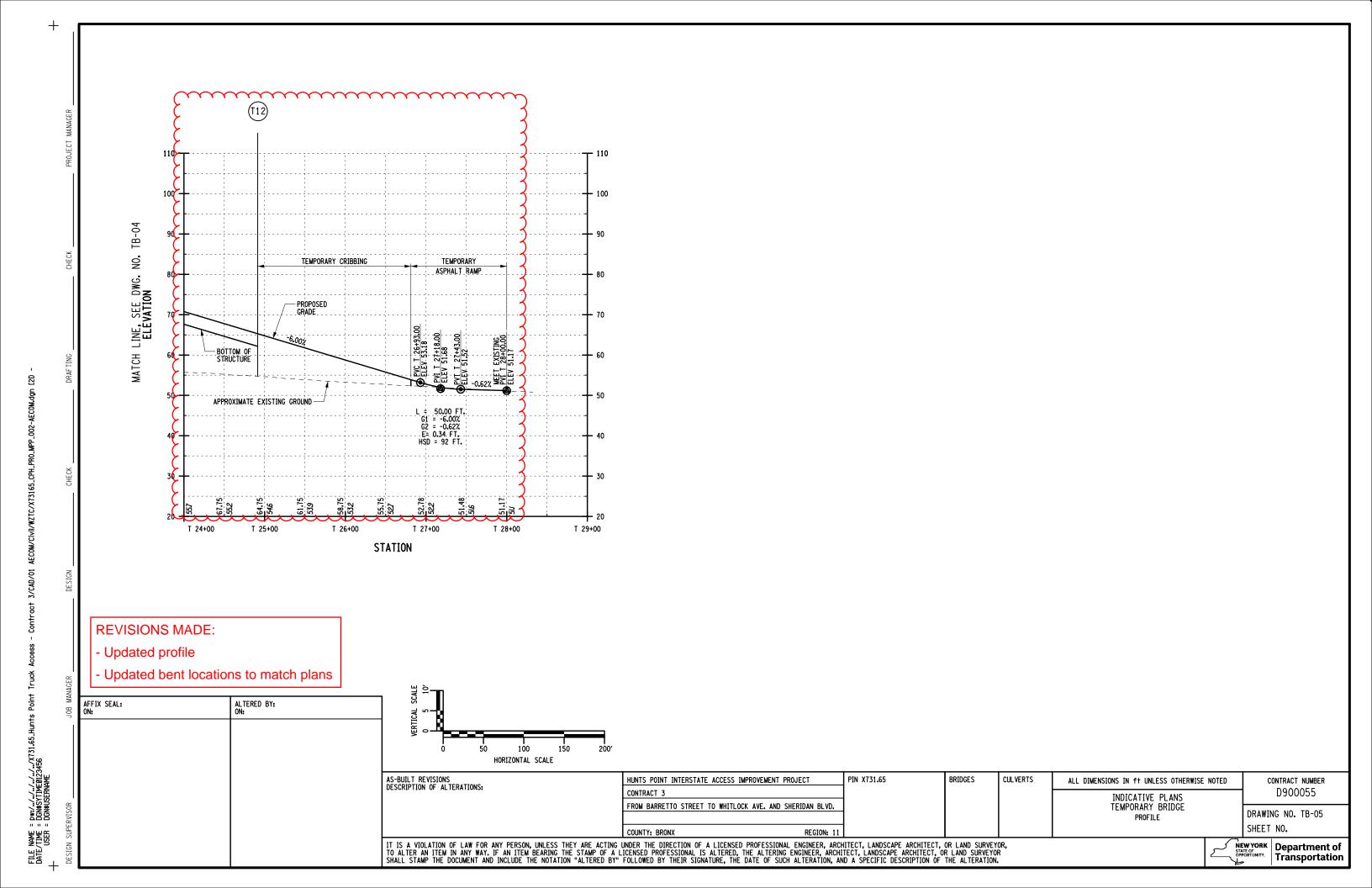
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ENGINEERING DATA

TABLE OF CONTENTS

NON-STANDARD FEATURE JUSTIFICATIONS
CRITICAL DESIGN ELEMENTS
FDNY SPECIFICATIONS, REQUIREMENTS, AND INFORMATION
SAMPLE LANE MILEAGE REPORT
SURVEY PROJECT CONTROL SHEETS

DRAFT OCMC PERMIT

NYSDOT UHPC LINK SLAB DETAILS

DRAFT OCMC PERMIT

PIN X731.65; Hunts Point Interstate Access Improvement Project, Contract 3.

WORK PERMIT

Stipulations are hereby given to the New York State Dept. of Transportation and its duly authorized representative's xxxxxxxxxxx, to enter upon and restrict the flow of traffic on the Bruckner Expressway, Bruckner Boulevard, Sheridan Boulevard, Edgewater Road and Bryant Avenue

- 1. This permit shall be in effect as of xxxxxxxxx.
- 2. The Permittee may close lane(s) according to the following schedule:

A. BRUCKNER EXPRESSWAY EB:

a. From Tiffany Street to Hunts Point Ave, three (3) lanes configuration

For Bridge reconstruction, deck replacement, rehabilitation, and widening construction:

- 1) Single Lane Closures during the following hours:
 - a) 10:00PM to 6:00AM, Monday night to Friday morning
 - b) 10:00PM to 10:00AM, Friday night to Saturday morning
 - c) 10:00PM to 12:01PM, Saturday night to Sunday afternoon
 - d) 10:00PM to 6:00AM, Sunday night to Monday morning
- 2) Two Lane Closures during the following hours:
 - a) 1:00AM to 5:00AM, Tuesday morning to Friday morning
 - b) 1:00AM to 6:00AM, Saturday morning
 - c) 1:00AM to 7:00AM, Sunday morning
 - d) 1:00AM to 5:00AM, Monday morning
- 3) Minimum lane width: 11' for multiple lanes, 12' for single lane cattle chutes
- 4) The exit ramp from EB Bruckner Expressway to Sheridan Boulevard shall be kept open at all times.

For removal and installation of overhead sign structures and panels:

1) Complete closure

a) Complete closure is permitted for maximum duration of 15 minutes between the hours of 1:00AM to 5AM Monday to Saturday. A minimum of one (1) hour, or until the traffic queue is relieved, whichever period is shorter, is required between any two (2) such closures.

b. From Hunts Point Ave to Whittier Street, two (2) lanes configuration

For Bridge reconstruction, deck replacement, rehabilitation, and widening construction:

- 1) Single Lane Closures during the following hours:
 - a) 12:01AM to 6:00AM, Tuesday morning to Friday morning
 - b) 12:01AM to 8:00AM, Saturday morning
 - c) 12:01AM to 10:00AM, Sunday morning
 - d) 12:01AM to 6:00AM, Monday morning

- 2) Minimum lane width: 11' for multiple lanes, 12' for single lane cattle chutes
- 3) The exit ramp from EB Bruckner Expressway to Sheridan Boulevard shall be kept open at all times.

For removal and installation of overhead sign structures and panels:

1) Complete closure

a) Complete closure is permitted for maximum duration of 15 minutes between the hours of 1:00AM to 5AM Monday to Saturday. A minimum of one (1) hour, or until the traffic queue is relieved, whichever period is shorter, is required between any two (2) such closures.

BRUCKNER EXPRESSWAY WB:

a. From Tiffany Street to Hunts Point Ave, three (3) lanes configuration

For Bridge reconstruction, deck replacement, rehabilitation, and widening construction:

- 1) Single Lane Closures during the following hours:
 - a) 10:00PM to 5:00AM, Monday night to Friday morning
 - b) 10:00PM to 6:00AM, Friday night to Saturday morning
 - c) 10:00PM to 10:00AM, Saturday night to Sunday morning
 - d) 10:00PM to 5:00AM, Sunday night to Monday morning
- 2) Two Lane Closures during the following hours:
 - a) 12:01AM to 4:00AM, Monday morning to Friday morning
 - b) 1:00AM to 5:00AM, Saturday morning
 - c) 1:00AM to 6:00AM, Sunday morning
- 3) Minimum lane width: 11' for multiple lanes, 12' for single lane cattle chutes
- 4) The entrance ramp from Sheridan Boulevard to WB Bruckner Expressway shall be kept open at all times.

For removal and installation of overhead sign structures and panels:

1) Complete closure

a) Complete closure is permitted for maximum duration of 15 minutes between the hours of 1:00AM to 5AM Monday to Saturday. A minimum of one (1) hour, or until the traffic queue is relieved, whichever period is shorter, is required between any two (2) such closures.

b. From Hunts Point Ave to Whittier Street, two (2) lanes configuration

For Bridge reconstruction, deck replacement, rehabilitation, and widening construction:

- 1) Single Lane Closures during the following hours:
 - a) 10:00PM to 5:00AM, Monday through Friday
 - b) 10:00PM to 6:00AM, Friday night to Saturday morning
 - c) 10:00PM to 9:00AM, Saturday night to Sunday morning
 - d) 10:00PM to 5:00AM, Sunday night to Monday morning

- 2) Minimum lane width: 11' for multiple lanes, 12' for single lane cattle chutes
- 3) The entrance ramp from Sheridan Boulevard to WB Bruckner Expressway shall be kept open at all times.

For removal and installation of overhead sign structures and panels:

2) Complete closure

b) Complete closure is permitted for maximum duration of 15 minutes between the hours of 1:00AM to 5AM Monday to Saturday. A minimum of one (1) hour, or until the traffic queue is relieved, whichever period is shorter, is required between any two (2) such closures.

B. BRUCKNER BOULEVARD EB:

- a. From Tiffany Street to Barretto Street, at the future configuration of three (3) through lanes on Mainline, one (1) through lane and single lane right turn lanes on Service Road

 For painting of structural steel and for slope stabilization and roadside improvements:
 - 1) Single Lane Closure on Mainline (two lanes open):
 - a) Contiguously
 - 2) Single Lane closure on Service Road (One shared lane open) during the following hours:
 - a) 10:00PM to 5:00AM, Monday night to Friday morning
 - b) 10:00PM to 12:01PM, Friday night to Saturday afternoon
 - c) 9:00PM to 12:01APM, Saturday night to Sunday afternoon
 - d) 9:00PM to 5:00AM, Sunday night to Monday morning

b. From Barretto Street to Hunts Point Avenue, at the future configuration of two (2) through lanes on Mainline and single lane right turn lane on Service Road

For roadway reconstruction and bike path, and for painting of structural steel

- 1) <u>Single Lane closure on Mainline (two lanes open to traffic and right turn is maintained)</u> during the following hours:
 - a) 10:00PM to 5:00AM, Monday night to Friday morning
 - b) 10:00PM to 10:00AM, Friday night to Saturday morning
 - c) 10:00PM to 12:01PM, Saturday night to Sunday afternoon
 - d) 9:00PM to 5:00AM, Sunday night to Monday morning
 - e) Traffic alternate route detour shall be provided as shown in plans

c. From Hunts Point Avenue to Faile Street, at the future configuration of two (2) through lanes

For demolition of existing structures, construction of Bruckner Expressway, construction of ramp SN and roadway construction:

- 1) Single Lane Closure (1 lane open and slip right turn lane to Faile Street):
 - a) Continuously
 - b) Traffic alternate route detour shall be provided as shown in plans
 - c) Maximum duration of 18 months is permitted
- 2) Entrance ramp to Sheridan Boulevard is closed

3) Provide traffic enforcement agents (TEAs) at Hunts Point Ave intersection during weekday peak hours

d. From Faile Street to Whittier Street, at the future configuration of two (2) through lanes

For demolition of existing structures, construction of Bruckner Expressway, construction of ramp SN and roadway construction:

- 1) Single Lane Closure (1 lane open):
 - a) Continuously
 - b) Maximum duration of 18 months is permitted
 - c) Provide additional right lane from EB Bruckner Boulevard to Whittier Street
 - d) Pedestrian access along existing sidewalk shall be maintained. During replacement of sidewalk, detour route for pedestrians shall be provided.
 - e) Traffic alternate route detour shall be provided as shown in plans
- 2) Bryant Avenue is closed between EB Bruckner Boulevard and Garrison Avenue
 - a) Maximum duration of 18 months is permitted
 - b) Local businesses access is maintained at all times.
 - c) Emergency vehicle access is maintained at all times.
 - d) Access to Bryant Avenue Pedestrian bridge is maintained open at all times.
 - e) Traffic signal operation at Bryant Avenue and EB Bruckner Boulevard is suspended during construction.
- 3) Whittier Street to be converted to two-way street
 - a) Maximum duration of 18 months is permitted
 - b) Provide advance signing, in addition detour traffic along Garrison Ave to Whittier Street to EB Bruckner Boulevard.
- 4) Provide traffic enforcement agents (TEAs) at Faile Street and at Whittier Street intersection during weekday peak hours

C. BRUCKNER BOULEVARD WB:

- a. From Tiffany Street to Barretto Street, at the future configuration of One (1) through lane and one left lane on Mainline and two (2) through lanes and parking lane on Service Road

 For demolition of existing structures, construction of Bruckner Expressway, construction of ramp SS and roadway construction:
 - 1) Single Lane Closure on Mainline (One left shared lane open):
 - a) Continuously
 - b) Maximum duration of 24 months is permitted
 - 2) Single Lane Closure on Service Road (One lane open) during the following hours:
 - a) 10:00PM to 5:00AM, Monday night to Friday morning
 - b) 10:00PM to 7:00AM, Friday night to Saturday morning
 - c) 8:00PM to 11:00AM, Saturday night to Sunday morning
 - d) 8:00PM to 5:00AM, Saturday night to Sunday morning
 - e) Maximum duration of 24 months is permitted
 - 3) Minimum lane width: 10'-9" for multiple lanes, 12' for single lane cattle chutes
 - 4) Parking lane shall be maintained. except during pavement milling and overlay and sidewalk replacement. Access to private building and businesses shall be maintained at all times

- 5) Bike lane between Tiffany Street and Barreto Street shall be maintained.
- 6) Traffic enforcement agents (TEAs) shall be provided at Tiffany Street and Barretto Street intersections during morning and evening peak hours.

b. From Barretto Street to Hunts Point Avenue, at the future configuration of two (2) through lanes and one left lane on Mainline and two (2) through lanes and parking lane on Service Road

For demolition of existing structures, construction of Bruckner Expressway, construction of ramp SS and roadway construction:

- 1) Single Lane Closure on Mainline (One left shared lane open):
 - a) Continuously
 - b) Maximum duration of 24 months is permitted
- 2) Single Lane Closure on Service Road (One lane open) during the following hours:
 - a) 10:00PM to 5:00AM, Monday night to Friday morning
 - b) 10:00PM to 7:00AM, Friday night to Saturday morning
 - c) 8:00PM to 11:00AM, Saturday night to Sunday morning
 - d) 8:00PM to 5:00AM, Sunday night to Monday morning
 - e) Maximum duration of 24 months is permitted
- 3) Minimum lane width: 10'-9" for multiple lanes, 12' for single lane cattle chutes
- 4) Parking lane shall be maintained. except during pavement milling and overlay and sidewalk replacement. Access to private building and businesses shall be maintained at all times
- 5) Bike lane between Barreto Street and Hunts Point Avenue shall be maintained.
- 6) Traffic enforcement agents (TEAs) shall be provided at Hunts Point Avenue intersection during morning and evening peak hours.

c. From Hunts Point Avenue to Faile Street, at the future configuration of five (5) through lanes

For demolition of existing structures, construction of Bruckner Expressway, construction of ramp SS and roadway construction:

- 1) Double Lanes Closure (Three lanes open):
 - a) Continuously
 - b) Maximum duration of 24 months is permitted
- 2) Additional Lane Closure (Two lanes open) during the following hours:
 - a) 10:00PM to 5:00AM, Monday night to Friday morning
 - b) 10:00PM to 7:00AM, Friday night to Saturday morning
 - c) 8:00PM to 11:00AM, Saturday night to Sunday morning
 - d) 8:00PM to 5:00AM, Sunday night to Monday morning
 - e) Traffic alternate route detour shall be provided as shown in plans
 - f) Maximum duration of 24 months is permitted
- 3) Minimum lane width: 11' for multiple lanes, 12' for single lane cattle chutes
- 4) Maintain access to Hunts Point Avenue subway and bus stops at all times.

- 5) Maintain right turn lanes to Hunts Point Avenue, Hoe Avenue and Faile Street.
- 6) Parking lane shall be maintained. except during pavement milling and overlay and sidewalk replacement. Access to private building and businesses shall be maintained at all times
- 7) Bike lane between Hunts Point Avenue and Faile Street shall be maintained.
- 8) Traffic enforcement agents (TEAs) shall be provided at Faile Street and Hoe Avenue intersection during morning and evening peak hours.

d. From Faile Street to Bryant Avenue, at the future configuration of four (4) through lanes

For demolition of existing structures, construction of Bruckner Expressway, construction of ramp SS and roadway construction:

- 1) Double Lanes Closure (Two lanes open):
 - a) Continuously
 - b) Maximum duration of 24 months is permitted
- 2) Additional Lane Closure (One lane open) during the following hours:
 - a) 11:00PM to 4:00AM, Monday night to Friday morning
 - b) 12:01AM to 6:00AM, Saturday morning
 - c) 12:01AM to 9:00AM Sunday morning
 - d) 11:00PM to 4:00AM, Sunday night to Monday morning
 - e) Traffic alternate route detour shall be provided as shown in plans
 - f) Maximum duration of 24 months is permitted
- 3) Minimum lane width: 11' for multiple lanes, 12' for single lane cattle chutes
- 4) Maintain access to Schools and Bryant Avenue Pedestrian Bridge at all times.
- 5) Parking lane shall be maintained. except during pavement milling and overlay and sidewalk replacement. Access to private building and businesses shall be maintained at all times
- 6) Bike lane between Faile Street and Bryant Avenue shall be maintained.
- 7) Traffic enforcement agents (TEAs) shall be provided at Bryant Avenue intersection during morning and evening peak hours.

e. From Bryant Avenue to Longfellow Avenue and Whitlock Avenue, at the future configuration of three (3) through lanes

For demolition of existing structures, construction of Bruckner Expressway, construction of ramp SS and roadway construction:

- 1) Double Lanes Closure (Two lanes open):
 - a) Continuously
 - b) Maximum duration of 24 months is permitted
- 2) Additional Lane Closure (One lane open) during the following hours:
 - a) 11:00PM to 4:00AM, Monday night to Friday morning
 - b) 12:01AM to 6:00AM, Saturday morning
 - c) 12:01AM to 9:00AM Sunday morning
 - d) 11:00PM to 4:00AM, Sunday night to Monday morning

- e) Traffic alternate route detour shall be provided as shown in plans
- f) Maximum duration of 24 months is permitted
- 3) Minimum lane width: 11' for multiple lanes, 12' for single lane cattle chutes
- 4) Maintain access to Parks and green spaces at all times.
- 5) Parking lane shall be maintained. except during pavement milling and overlay and sidewalk replacement. Access to private building and businesses shall be maintained at all times
- 6) Bike lane between Bryant Avenue and Longfellow Avenue and Whitlock Avenue shall be maintained.

f. From Longfellow Avenue and Amtrak Bridge, at the future configuration of two (2) through lanes

For demolition of existing structures, construction of Bruckner Expressway, construction of ramp SS and roadway construction:

- 1) One Lane Closure (One lane open):
 - a) Continuously
 - b) Maximum duration of 24 months is permitted
- 2) Additional Lane Closure (full closure) during the following hours:
 - a) 11:00PM to 4:00AM, Monday night to Friday morning
 - b) 12:01AM to 6:00AM, Saturday morning
 - c) 12:01AM to 9:00AM Sunday morning
 - d) 11:00PM to 4:00AM, Sunday night to Monday morning
 - e) Traffic detour shall be provided as shown in plans
 - f) Maximum duration of 24 months is permitted
- 3) Minimum lane width: 12' for single lane cattle chutes
- 4) Maintain access to Parks and green spaces at all times.
- 5) Parking lane shall be maintained. except during pavement milling and overlay and sidewalk replacement. Access to private building and businesses shall be maintained at all times
- 6) Bike lane between Longfellow Avenue and Amtrak Bridge shall be maintained.

D. BRYANT AVENUE PEDESTRIAN BRIDGE

a. For the demolition of existing pedestrian bridge and construction of bridge main spans and western ramps

- 1) Full Pedestrian Bridge closure:
 - a) Pedestrian bridge is allowed to be closed during summer school recess from beginning of June to end of August
 - b) Maximum of two summer closures will be permitted
 - c) Provide pedestrian detour as shown in plans
 - d) Pedestrian access along existing sidewalk shall be maintained.

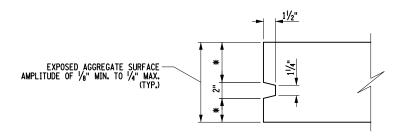
- e) Remove existing school fence and establish temporary fence during construction as shown in plans
- f) All encroachment to school shall be removed and permanent fence shall be provided as shown in plans.

E. BRUCKNER BOULEVARD INTERSECTIONS

The Permittee must maintain existing turning lanes to and from Bruckner Boulevard to cross streets at all times, either maintaining existing turning lanes or providing temporary turning lanes to/from cross streets and as follows;

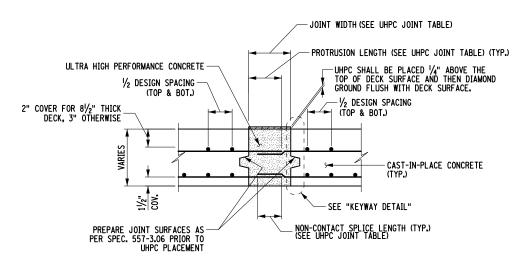
- a. Critical locations require local street permits to be pulled.
- b. **Barretto Street intersection:** One lane of traffic shall be maintained in each direction of Barretto Street at all times.
- c. **Hunts Point Avenue intersection:** two lanes of traffic shall be maintained in each direction of Hunts Point Avenue at all times.
- d. Pedestrian access and pedestrian crosswalks shall be maintained open at all times.

NYSDOT UHPC LINK SLAB DETAILS



 PROVIDE DIMENSION TO AVOID INTERFERENCE WITH THE REINFORCEMENT.

KEYWAY DETAIL



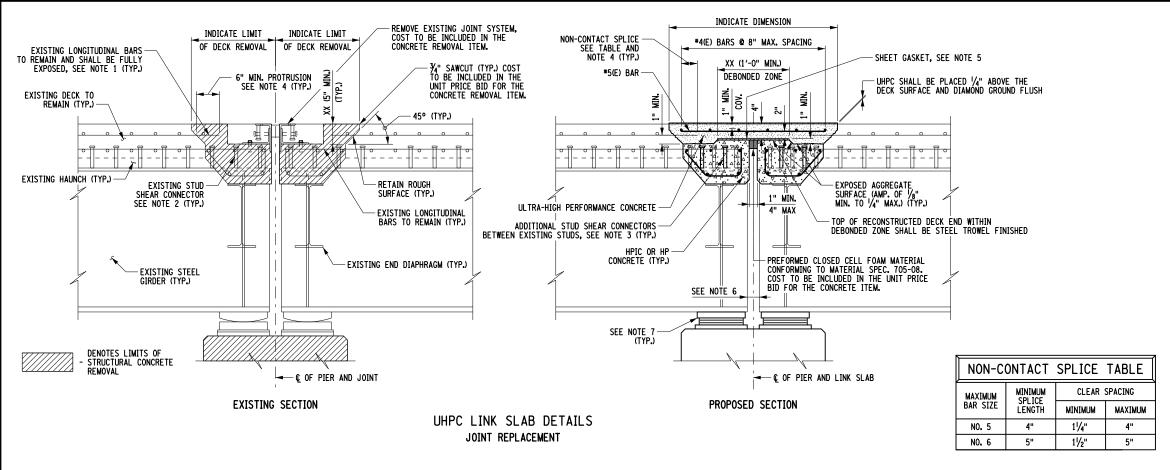
LONGITUDINAL UHPC JOINT

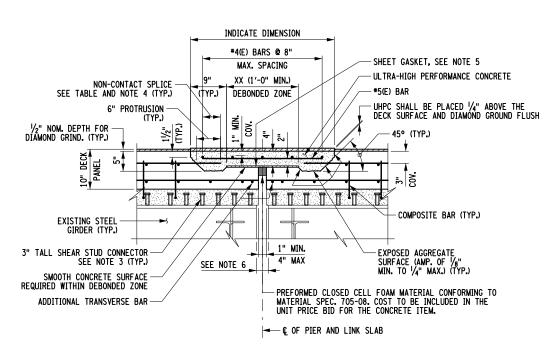
	UHPC JOINT TABLE					
BAR SIZE	JOINT	PROTRUSION LENGTH	SPLICE LENGTH	CLEAR SPACING		
DAR SIZE	WIDTH			MINIMUM	MAXIMUM	
#4	6"	5"	4"	1"	4"	
* 5	7"	6"	5"	11/4"	5"	
#6	9"	71/2"	6"	11/2"	6"	

DESIGNER NOTE:

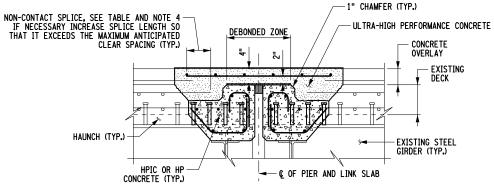
UHPC JOINT TABLE IS APPLICABLE FOR ALL BAR TYPES WITH A YIELD STRENGTH NO GREATER THAN 75 KSI.



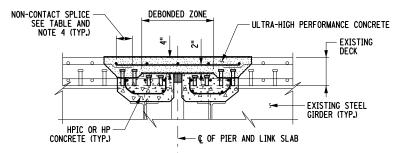




UHPC LINK SLAB DETAIL
PRECAST DECK PANELS
(DECK REPLACEMENT SHOWN, NEW SUPERSTRUCTURE SIMILAR)



SCHEMATIC UHPC LINK SLAB DETAIL
JOINT REPLACEMENT - CONCRETE OVERLAY



SCHEMATIC UHPC LINK SLAB DETAIL JOINT REPLACEMENT - WITHOUT GIRDER HAUNCH

DESIGNER NOTES:

THE EPOXY COATED BARS SHOWN MAY NEED TO BE CHANGED TO MEET THE REINFORCEMENT CORROSION PROTECTION REQUIREMENTS SPECIFIED IN THE BRIDGE MANUAL.

THE MINIMUM GIRDER END GAP SHALL BE INDICATED IN THE NOTES.
THIS GAP SHALL BE MAXIMIZED TO THE LARGEST EXTENT FEASIBLE
WHILE CONSIDERING THE EXISTING GAP, ALLOWANCES FOR MINOR
AMOUNTS OF SUPERSTRUCTURE MOVEMENT/SHIFTING DURING
CONSTRUCTION OPERATIONS, AND PREVENTING THE GIRDER'S BOTTOM
FLANGES FROM CONTACTING EACH OTHER WHEN ADJOINING SPANS ARE
SIMULTANEOUSLY SUBJECT TO LIVE LOADS.

THE PRECAST DECK PANELS DETAIL DEPICTS TRADITIONAL REINFORCEMENT AND A STANDARD UHPC HAUNCH. THIS DETAIL SHALL BE MODIFIED WHEN USING ISOTROPIC REINFORCEMENT AND/OR A LOW PROFILE HAUNCH.

WHEN USING AN ASPHALT OVERLAY, IT SHALL BE PLACED OVER THE UHPC LINK SLAB. PLACING THE UHPC 0.25 INCHES ABOVE THE CONCRETE DECK SURFACE AND GRINDING FLUSH IS STILL REQUIRED.

SCHEMATIC DETAILS ARE ONLY INTENDED TO SHOW ACCEPTABLE MODIFICATIONS TO THE LINK SLAB, AND DECK END, GEOMETRY FOR VARIOUS EXISTING CONDITIONS. ALL OF THE REQUIREMENTS AND ANNOTATIONS PROVIDED IN THE UHPC LINK SLAB JOINT REPLACEMENT DETAILS SHALL APPLY AND BE SHOWN ON THE CONTRACT PLANS.

NOTES:

- 1. WHERE EXISTING BARS ARE DAMAGED DURING REMOVAL OF EXISTING DECK CONCRETE, DRILL AND GROUT *560 DOWELS CENTERED BETWEEN EXISTING DECK BARS TO MATCH SPACING AT NO COST TO THE STATE. GROUT MATERIAL CONFORMING TO NYS MATERIAL SPECIFICATION 701-05 INSTALLED IN ACCORDANCE WITH THE NYS STANDARD SPECIFICATION SECTION 586-3.01. NON-DESTRUCTIVE INVESTIGATION AND PULLOUT TEST NOT REQUIRED.
- 2. EXISTING STUD SHEAR CONNECTORS MAY REMAIN UNLESS THEY INTERFERE WITH THE DEBONDED ZONE OF THE UHPC LINK SLAB.
- 3. STUD SHEAR CONNECTOR SPACING UNDERNEATH THE LINK SLAB SHALL NOT EXCEED 5 INCHES IN ANY DIRECTION. THE USE OF OTHER TYPES OF SHEAR CONNECTORS ARE PROHIBITED.
- 4. LONGITUDINAL REINFORCEMENT SPLICES ARE NOT PERMITTED IN THE DEBONDED ZONE.
- 5. COMPRESSED SYNTHETIC SHEET GASKET (0.0625 INCH THICK SHEET, TREATED BOTH SIDES), CONFORMING TO MATERIAL SPECIFICATION 728-06, SHALL COVER THE ENTIRE SURFACE OF RECONSTRUCTED DECK ENDS, OR PRECAST PANEL ENDS, WITHIN THE DEBONDED ZONE. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR THE CONCRETE ITEM.
- 6. A MINIMUM GIRDER END GAP OF ___ INCHES SHALL BE PROVIDED BETWEEN ADJACENT SPANS. THIS MUST BE VERIFIED PRIOR TO POURING THE LINK SLAB. ANY ADJUSTMENTS REQUIRED SHALL BE MADE AT NO ADDITIONAL COST TO THE STATE.
- 7. UPON INSTALLATION OF THE PROPOSED BEARINGS, THE CONTRACTOR SHALL INSTALL TEMPORARY BLOCKING TO ENSURE GLOBAL STABILITY OF THE ENTIRE SUPERSTRUCTURE SYSTEM PRIOR TO THE INSTALLATION OF THE LINK SLABIS. THE CONTRACTOR SHALL SUBMIT THE TEMPORARY BLOCKING PROCEDURE TO THE DCES FOR APPROVAL PRIOR TO THE REMOVAL OF THE EXISTING BEARINGS. THE COST OF TEMPORARY BLOCKING SHALL BE INCLUDED IN THE BEARING REMOVAL ITEMS. AS PART OF THE SUBMITTAL, THE CONTRACTOR MUST SUBMIT A SCHEDULE FOR CHECKING THAT THE BLOCKING MECHANISMS INSTALLED ARE FUNCTIONING AS INTENDED, AND FOR PERFORMING ROUTINE MAINTENANCE, SUCH AS MAKING ADJUSTMENTS FOR THE SUPERSTRUCTURE'S THERMAL MOVEMENTS, FOR THE DURATION OF THE TIME THAT THEY REMAIN IN PLACE.
- 8. IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 565-3.05
 AND AFTER ALL LINK SLABS HAVE CURED FOR A MINIMUM OF SEVEN
 DAYS, THE ALIGNMENT OF ALL EXPANSION BEARINGS SHALL BE
 MEASURED AND ADJUSTMENTS MADE IF REQUIRED.
- 9. (E) DENOTES EPOXY COATED BARS.

REVISED	NEW YORK STATE OF OPPORTUNITY.	Department of Transportation Office of Structures
ERRATA	UHPC LINK SLAB DETAILS (1 OF 2)	
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EXISTING CONCRETE BARRIER

CONSTRUCTION JOINT (TYP.)

EXISTING BAR TO REMAIN (TYP.) -

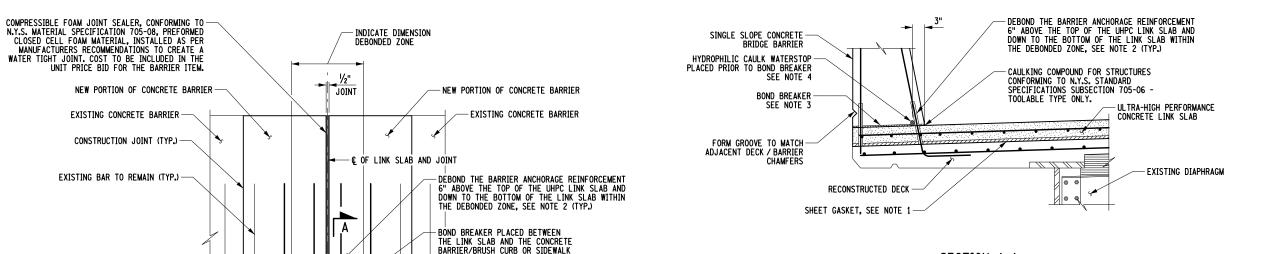
RECONSTRUCTED DECK END (TYP.)

ELEVATION RELIEF JOINT OVER UHPC LINK SLAB
(SINGLE SLOPE CONCRETE BARRIER SHOWN, SIDEWALK AND BRUSH CURB SIMILAR)

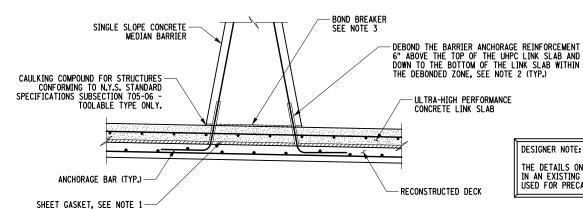
(VERTICAL FACED CONCRETE PARAPET WITH SIDEWALK)

SIDEWALK

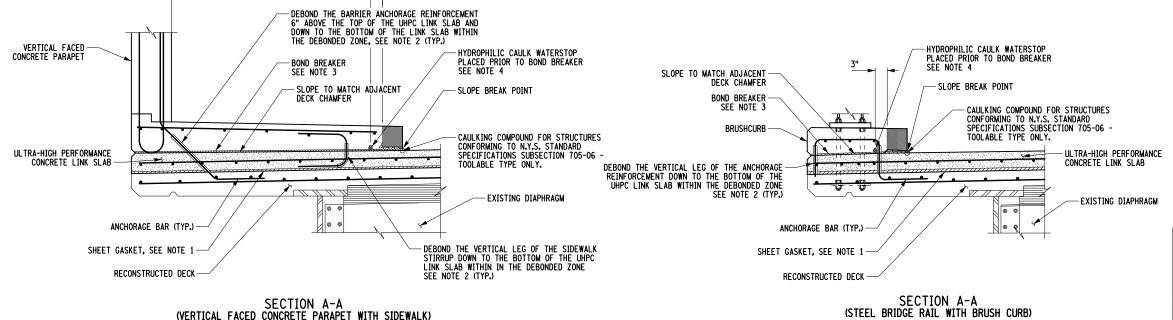
STEEL GIRDER (TYP.)



SECTION A-A (SINGLE SLOPE CONCRETE BRIDGE BARRIER)



SECTION A-A (SINGLE SLOPE CONCRETE MEDIAN BARRIER)



SEE SECTION A-A AND NOTE 3

- EXISTING DECK

ULTRA-HIGH PERFORMANCE

SHEET GASKET, SEE NOTE 1

CONCRETE LINK SLAB

DESIGNER NOTE:

THE DETAILS ON THIS DRAWING DEPICT A UHPC LINK SLAB INSTALLED IN AN EXISTING CAST-IN-PLACE DECK. SIMILAR DETAILS SHALL BE USED FOR PRECAST DECK PANELS.

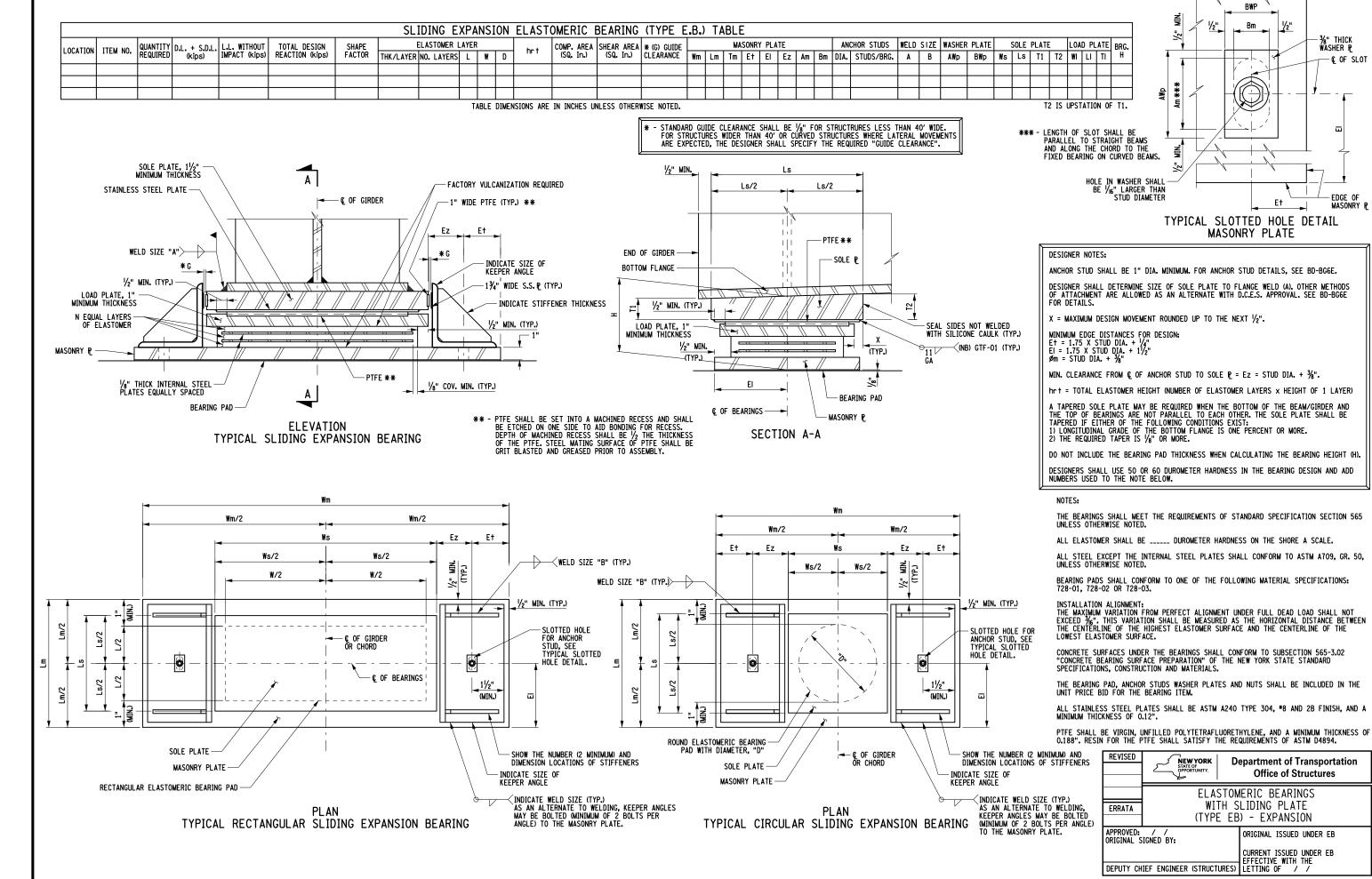
NOTES:

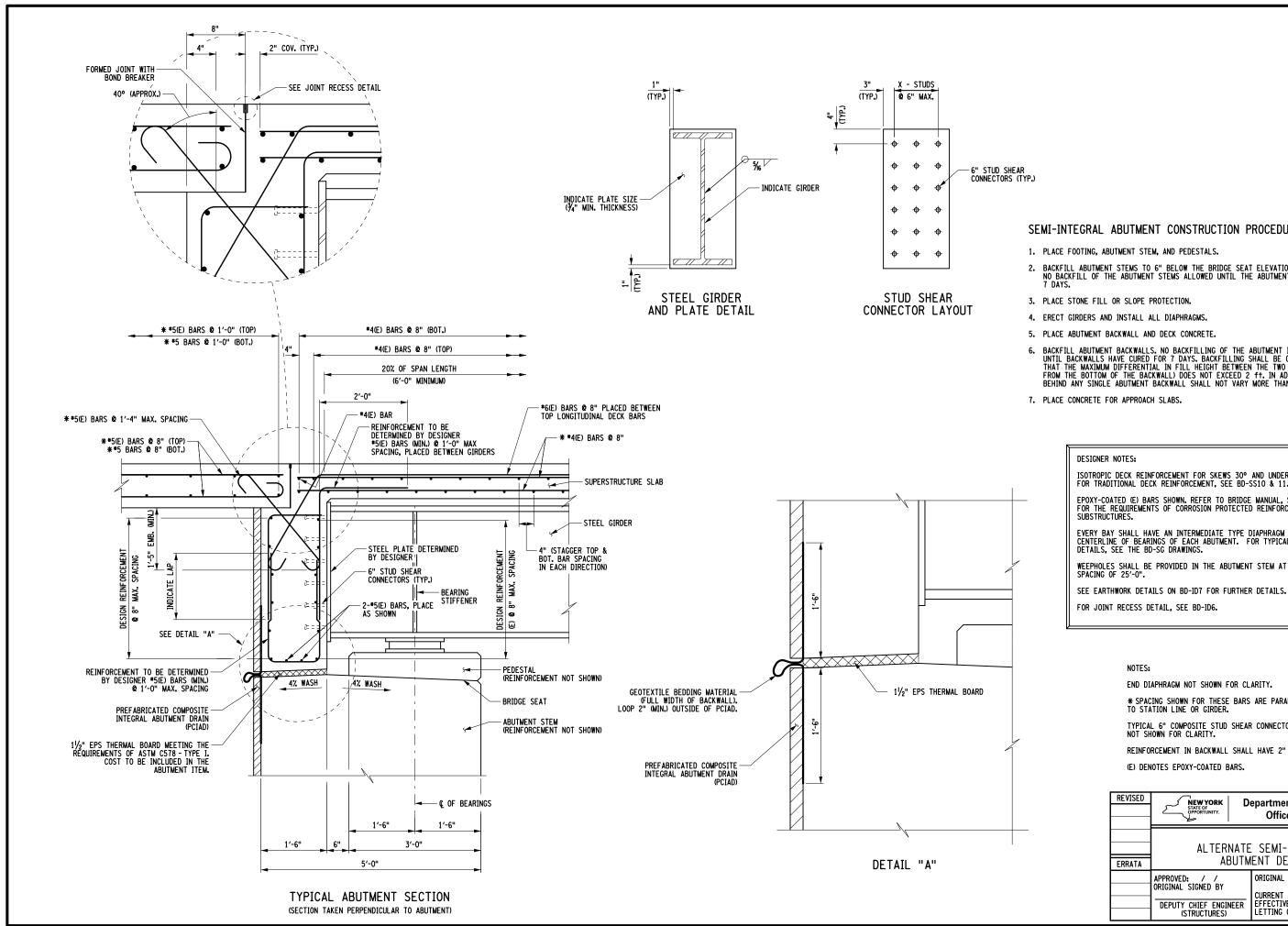
- 1. COMPRESSED SYNTHETIC SHEET GASKET (0.0625 INCH THICK SHEET, TREATED BOTH SIDES), CONFORMING TO MATERIAL SPECIFICATION 728-06, SHALL COVER THE ENTIRE SURFACE OF RECONSTRUCTED DECK ENDS, OR PRECAST PANEL ENDS, WITHIN THE DEBONDED ZONE. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR THE CONCRETE ITEM.
- 2. DEBOND ALL REINFORCEMENT THAT EXTENDS OUT OF THE UHPC LINK SLAB WITHIN THE DEBONDED ZONE AS INDICATED IN THE DETAILS. DEBONDING SHALL BE ACCOMPLISHED BY WRAPPING BARS WITH A MINIMUM OF 3 LAYERS OF HEAVY DUTY DUCT TAPE.
- 3. BOND BREAKER USED AT THE INTERFACE OF THE LINK SLAB AND BARRIER, SIDEWALK, OR BRUSH CURB SHALL BE SIKA BONDBREAKER W, WAX BASED BOND BREAKER MATERIAL, OR APPROVED EQUAL.
- 4. THE COST OF THE HYDROPHILIC CAULK/SEAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE LINK SLAB CONCRETE ITEM. THE CAULK/SEAL MANUFACTURER AND INSTALLATION SHALL BE APPROVED BY THE ENGINEER. THE HYDROPHILIC CAULK/SEAL SHALL BE PROTECTED
- 5. THE BARS SHOWN IN THE BARRIER ARE THE ANCHORAGE BARS ORIGINATING IN THE DECK. FOR BARRIER REINFORCEMENT DETAILS SEE THE BD-RCB SERIES.

REVISED	NEW YORK STATE OF OPPORTUNITY.	epartment of Transportation Office of Structures
ERRATA		LINK SLAB ILS (2 OF 2)
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FILE NAME DATE/TIME





SEMI-INTEGRAL ABUTMENT CONSTRUCTION PROCEDURE

- 1. PLACE FOOTING, ABUTMENT STEM, AND PEDESTALS.
- 2. BACKFILL ABUTMENT STEMS TO 6" BELOW THE BRIDGE SEAT ELEVATION. NO BACKFILL OF THE ABUTMENT STEMS ALLOWED UNTIL THE ABUTMENTS HAVE CURED FOR
- 3. PLACE STONE FILL OR SLOPE PROTECTION.
- 4. ERECT GIRDERS AND INSTALL ALL DIAPHRAGMS.
- 5. PLACE ABUTMENT BACKWALL AND DECK CONCRETE.
- 6. BACKFILL ABUTMENT BACKWALLS. NO BACKFILLING OF THE ABUTMENT IS ALLOWED UNTIL BACKWALLS HAVE CURED FOR 7 DAYS. BACKFILLING SHALL BE CONDUCTED SUCH THAT THE MAXIMUM DIFFERENTIAL IN FILL HEIGHT BETWEEN THE TWO ABUTMENTS (AS MEASURED FROM THE BOTTOM OF THE BACKWALL) DOES NOT EXCEED 2 ft. IN ADDITION, THE FILL HEIGHT BEHIND ANY SINGLE ABUTMENT BACKWALL SHALL NOT VARY MORE THAN 2 ft.
- 7. PLACE CONCRETE FOR APPROACH SLABS.

DESIGNER NOTES:

ISOTROPIC DECK REINFORCEMENT FOR SKEWS 30° AND UNDER SHOWN. FOR TRADITIONAL DECK REINFORCEMENT, SEE BD-SS10 & 11.

EPOXY-COATED (E) BARS SHOWN. REFER TO BRIDGE MANUAL, SECTION 15.12 FOR THE REQUIREMENTS OF CORROSION PROTECTED REINFORCEMENT IN

EVERY BAY SHALL HAVE AN INTERMEDIATE TYPE DIAPHRAGM INSTALLED AT THE CENTERLINE OF BEARINGS OF EACH ABUTMENT. FOR TYPICAL DIAPHRAGM DETAILS, SEE THE BD-SG DRAWINGS.

WEEPHOLES SHALL BE PROVIDED IN THE ABUTMENT STEM AT A MAXIMUM SPACING OF 25'-0".

FOR JOINT RECESS DETAIL, SEE BD-ID6.

END DIAPHRAGM NOT SHOWN FOR CLARITY.

* SPACING SHOWN FOR THESE BARS ARE PARALLEL OR PERPENDICULAR TO STATION LINE OR GIRDER.

TYPICAL 6" COMPOSITE STUD SHEAR CONNECTORS ON TOP OF GIRDER NOT SHOWN FOR CLARITY.

REINFORCEMENT IN BACKWALL SHALL HAVE 2" COVER.

(E) DENOTES EPOXY-COATED BARS.

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	ALTERNATE SEMI-INTEGRAL			
ERRATA	ABUIM	MENT DETAILS		
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	DEPUTY CHIEF ENGINEER (STRUCTURES)	EFFECTIVE WITH THE LETTING OF //		



UHPC Link Slab Design

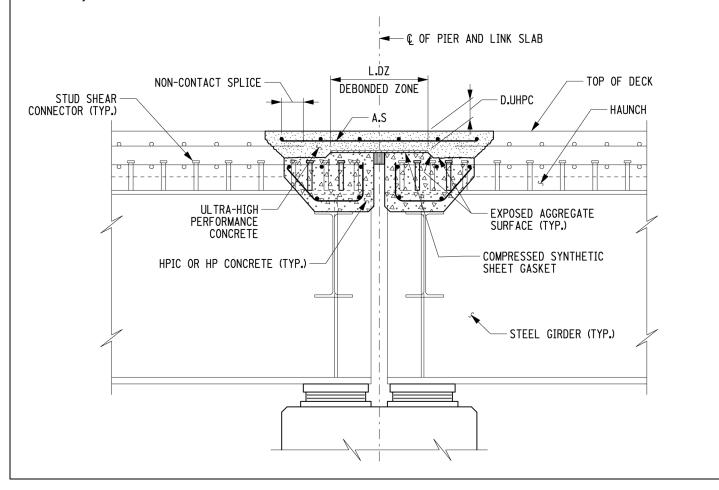
	BIN:	
	PIN:	
Job Title:		

EXAMPLE

The NYSDOT Office of Structures has developed an innovative link slab design utilizing Ultra-High Performance Concrete (UHPC). The results of our investigation into the behavior of UHPC link slabs showed that the force required to strain the UHPC in pure tension is extremely large and nearly all of the translation, due to the girder's end rotation, will occur at the bearings. Therefore, the link slab design assumes that the UHPC section is subject to bending only. Although not accounted for in the design of the link slab, due to the conservative approach taken for bending, the link slab also acts as a semi-rigid link that transfers lateral loads between spans.

Our design uses a strain based analysis, where the extreme fiber tensile strain in the UHPC is determined by the amount of girder end rotation, under the assumption of linearly elastic flexural behavior. Using stress-strain relationships, the location of the neutral axis is found through an iterative algorithm. Upon convergence of the assumed and calculated neutral axis location, the tensile strain and compressive stress in the UHPC, along with the stress in the longitudinal steel reinforcement, is computed and compared to allowable values.

In tension, UHPC develops closely spaced micro-cracks as a result of its high strength steel fibers being dispersed throughout a matrix of fine aggregates and supplementary cementitious materials. Due to this unique tensile behavior, UHPC has the ability to withstand ultimate tensile strains up to 0.007. It is this attribute that allows UHPC link slabs to accommodate the girder's end rotations within a relatively short length. For design, a maximum strain of 0.0035 at the extreme tensile fiber was chosen in order to limit the crack widths to a level that will not permit the penetration of moisture and chlorides, ensuring a highly durable solution for the elimination of deck joints.





UHPC Link Slab Design

EXAMPLE

User Inputs

- Indicates user input

 $f_v := 60 \text{ksi}$

reinforcement yield strength

 $E_s := 29000 ksi$

reinforcement modulus of elasticity (LRFD 5.4.3.2)

$$A_{S} := \frac{0.31 \text{in}^2}{8 \text{in}} = 0.47 \cdot \frac{\text{in}^2}{\text{ft}}$$

area of longitudinal reinforcement at joint

 $\theta_{LL} := 0.00506$ rad

unfactored live load girder end rotation (use average rotation of linked spans if they are not equal)

 $L_{dz} := 16in$

debonded zone length

 $d_{bf} := 6.32ft$

vertical distance from top of deck to bottom of bottom flange

Note: The following inputs are standard and not editable by the user.

 $E_c := 8000 ksi$

UHPC compressive modulus of elasticity

 $f_{uhpc.t.all} := 1.2ksi$

UHPC tensile cracking stress

 $f_{uhpc.c.all} := -14ksi$

maximum allowable UHPC compressive stress

$$\varepsilon_{\text{uhpc.t.all}} := 3500 \ 10^{-6}$$

maximum allowable UHPC tensile strain

 $d_{uhpc} := 4in$

depth of UHPC

Flexural Analysis of Link Slab

width of section b := 1 ft

 $A_s := A_s \cdot b = 0.47 \cdot in^2$

area of reinforcement within section

 $c := \begin{bmatrix} eci \leftarrow 1 & 10^{-6} \\ ec \leftarrow 1 \\ i \leftarrow 1 \end{bmatrix}$

iterative algorithm to determine distance from bottom of section to neutral axis

while eci < ec

 $h := \, d_{uhpc} = 4.0 \cdot in \qquad \text{ depth of UHPC}$

 $f_t := f_{uhpc.t.all} = 1.2 \cdot ksi$

assumed maximum tensile stress of UHPC

 $\theta := 1.75 \cdot \theta_{LL} = 0.51 \cdot \deg$

Strength I girder end rotation

$$fc \leftarrow eci \cdot E_c$$

$$c \leftarrow \frac{\sqrt{A_s^2 \cdot E_s^2 \cdot eci}^2 + fc \cdot A_s \cdot E_s \cdot b \cdot h \cdot eci + b^2 \cdot f_t^2 \cdot h^2} + b \cdot f_t \cdot h - A_s \cdot E_s \cdot eci}{b \cdot f_c + 2 \cdot b \cdot f_t}$$

$$ec \leftarrow \frac{-2 \cdot \theta \cdot c}{L_{dz}}$$

$$eci \leftarrow eci + 0.1 \cdot 10^{-6}$$

$$i \leftarrow i + 1$$

out
$$\leftarrow$$
 "Error" if $(c < 0 \text{in}) \lor (c > d_{uhpc}) \lor \left(\frac{\text{max}(|ec|, eci)}{\text{min}(|ec|, eci)} - 1 > 5\%\right)$

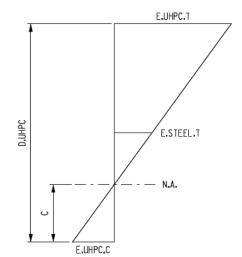
out \leftarrow c otherwise

return out

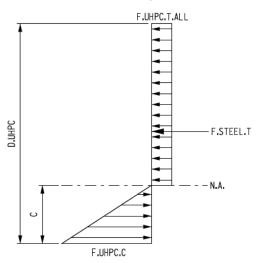
UHPC Link Slab Design

EXAMPLE

Strain Diagram



Stress Diagram



distance from bottom of section to neutral axis $c = 1.04 \cdot in$

$$\varepsilon_{uhpc.t} \coloneqq \frac{2 \cdot \theta \cdot \left(d_{uhpc} - c\right)}{L_{dz}} = 3280 \cdot 10^{-6} \qquad \text{tensile strain in UHPC}$$

$$\varepsilon_{s.t} \coloneqq \frac{2 \cdot \theta \cdot \left(\frac{d_{uhpc}}{2} - c\right)}{L_{dz}} = 1067 \cdot 10^{-6} \qquad \text{tensile strain in reinforcement}$$

$$f_{s,t} \coloneqq \epsilon_{s,t} \cdot E_s = 30.93 \cdot ksi \qquad \qquad \text{tensile stress in reinforcement}$$

$$\varepsilon_{uhpc.c} \coloneqq \frac{-2 \cdot \theta \cdot c}{L_{dz}} = -1147 \cdot 10^{-6}$$
 compressive strain in UHPC

$$f_{uhpc.c} \coloneqq \epsilon_{uhpc.c} \cdot \mathrm{E}_c = -9.18 \cdot \mathrm{ksi} \qquad \qquad \text{compressive stress in UHPC}$$

$$d_{gap.min} \coloneqq 2 \cdot \theta \cdot \left\lceil d_{bf} - \left(d_{uhpc} - c \right) \right\rceil = 1.29 \cdot in \qquad \text{minimum required girder end gap}$$

Analysis Results

$$R = \begin{pmatrix} \text{"Analysis Criteria"} & \text{"Actual"} & \text{"Allowable"} & \text{"Design Ratio"} & \text{"Pass/Fail"} \\ \text{"Tensile Strain in UHPC } (\mu\epsilon)\text{"} & 3280.41 & 3500.00 & 1.07 & \text{"Pass"} \\ \text{"Stress in Reinforcement (ksi)"} & 30.93 & 60.00 & 1.94 & \text{"Pass"} \\ \text{"Compressive Stress in UHPC } (\mu\epsilon)\text{"} & -9.18 & -14.00 & 1.53 & \text{"Pass"} \\ \text{"Minimum Girder End Gap (in)"} & \text{"----"} & 1.29 & \text{"----"} & \text{"----"} \\ \end{pmatrix}$$